The Strategic Corporate Training Method to Sustain Organizational Productivity in the Clothing Industry of Sri Lanka

R U Kuruppu

Doctor of Philosophy

2009

RMIT

The Strategic Corporate Training Method to Sustain Organizational Productivity in the Clothing Industry of Sri Lanka

A thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy

Rohana U Kuruppu

MSc. BA (Hons). C.Text. FTI

School of Fashion and Textiles

Design and Social Context College

RMIT University

May 2009

Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Signature:

Name: Rohana U Kuruppu

Date: May 2009

Acknowledgements

The author would like to thank Dr. Rajiv Padhye, Director of Programmes of the School of Fashion and Textiles and Associate Professor David Forrest of the School of Education in the Design and Social Context College for very helpful comments and guidance.

A very special thanks to all the companies, managers and staff of those companies for allowing me to carry out various experiments and also to those who gave willingly and generously of their valuable time and who were prepared to share their knowledge and experience in this field of study with me. Confidentiality forbids identifying them individually by name but it does not lessen the author's appreciation for their contribution.

The author wishes to thank Mr. Ashroff Omar the CEO of the Brandix Lanka Ltd. for all the support and encouragement received from him during this study period.

Finally, I wish to mention the encouragement and support rendered to me by my family and their patience in this regard are much appreciated.

Acronyms

APR	Average Percentile Rank
ASEAN	Association of South East Asian Nations
BOI	Board of Investment
BCCT	Brandix College of Clothing Technology
BSI	British Standards Institution
CB	Central Bank
CBI	Caribbean Basin Initiative
CDN	Ceylon Daily News
CITI	Clothing Industry Training Institute
C & M	Cut and Make
CPM	Cost per Minute
DCS	Department of Census and Statistics
EBT Centre	Enterprise Based Training Centre
EDB	Export Development Board
EI	Employee Involvement
EID	Electronic Imaging Division (Toshiba)
ESC	Economic Service Charge
FDI	Foreign Direct Investment

FOB	Free on Board
GATT	General Agreement on Tariffs & Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GSP	General System of Preference
HDI	Human Development Index
HRM	Human Resource Management
IBT	Industry Based Training
IOT	Industry Oriented Training
IPS	Institute of Policy Studies
IRDP	Integrated Rural Development Programme
ITABs	Industry Training Advisory Boards
JAAF	Joint Apparel Associations Forum
JASTECA	Japan and Sri Lanka Technical and Cultural Association
JSP	Janasaviya Programme
KPIs	Key Performance Indicators
KSA	Kurt Salmon Associates
LFPR	Labour Force Participation Rate
LTO	Labour Turn over
MFA	Multi Fibre Arrangement

NAITA	National Apprentice Industry Training Authority
NDTF	National Development Trust Fund
NITE	National Institute of Technical Education
NVQ	National Vocational Qualification
OECD	Organization for Economic Corporation and Development
OPA	Outward Processing Arrangement
PD	Product Development
PAYE	Pay As You Earn
QC	Quality Circles
QLFS	Quarterly Labour Force Survey
RMIT University	Royal Melbourne Institute of Technology
SL	Sri Lanka
RQ	Research Questionnaire
SME	Square Metre Equivalent
SMV	Standard Minute Value of the garment or component
STEM	Strategic Training of Employees Model
T/C	Textile and Clothing
TPS	Toyota Production System
TQB	Textile Quota Board
TT&SC	Textile Training and Services Centre

TVEC	Tertiary Vocational Educational Commission
TVET	Tertiary Vocational Educational Training
UNDP	United Nations Development Programme
VAT	Value Added Tax
VET	Vocational Education & Training
VTA	Vocational Training Authority
WTO	World Trade Organization

Glossary

Association of Southeast Asian Nations (ASEAN)

This association was formed in 1977 and represents Asian concerns toward integration and cooperation on trade matters. Its member states are Brunei, Indonesia, Malaysia, Philippines, Singapore, and Thailand.

Balance in Training

A training course has its content. This can be divided into two sections, i.e., usable content and potential content. It is difficult to reach the potential content due to organizational constraints. Therefore, it is necessary to provide a proper level of training against organizational constraints. This is known as balance in training.

Buyer

The person responsible for selection, purchasing, sales and profitability of clothing products for a given season. The buyers buy for retailers.

Competitiveness

Competitiveness is the ability to compete in world market with a global strategy. The term is defined in many ways but for the clothing industry in developing countries it would be the low unit cost of labour.

Conceptualization

The concepts that we conceive is conceptualization. Concept implies knowledge and understanding as you see it personally. It is personal because concepts are subject to our own perceptions. Concepts are our own ideas but most of them have been taken from other sources that we thought are acceptable. Further, concepts are created from experience of facts and they give rise to theories, which explain relationships among facts.

Corporate Training

This is a training given to employees in an organization. More often, they are specific to a certain training need. Corporate training is mostly customized for that particular company.

Customized Training

This is training geared for a particular need of a company. It is tailor made for that need and basically it is demand driven training.

Cost per minute (CPM)

Cost per minute is the ratio of factory overhead and earned minutes. If this ratio is high then the operating cost is high. All efforts are taken to keep the CPM at a low level in order to be competitive.

Cut and Make (C & M) cost

This is the labour cost of manufacturing. C & M cost is worked out by multiplying CPM by the Standard Minute Value (SMV). If the CPM is comparatively low, the C & M cost is low. To keep the CPM low, one should operate at a very high level of efficiency.

Caribbean Basin Initiative (CBI)

The Caribbean Basin Initiative is officially known as the Caribbean Basin Economic Recovery Act, which was enacted in 1983 to boost the economies of the Caribbean countries. It is a special trade agreement between the US and 27 Caribbean counties and Mexico. Most Caribbean products became duty free to US under this system except textile/clothing products. However, later it gave unlimited access for garments produced in Caribbean countries and made out of US fabrics.

Comparative advantage

Comparative advantage takes place when trade is advantageous or beneficial although a country has no absolute advantage but is relatively more efficient in producing garments than its counterpart.

Economic Service Charge (ESC)

This is a business tax system introduced in Sri Lanka recently. It is a tax on sales turn over ranging from zero point one percent to one percent. Those businesses that enjoy tax concessions will be levied a lower percentage. ESC is payable every quarter and is deductible at the end of the year against the total tax payable. In other words, it is a kind of advance tax payment.

Efficiency

Efficiency is the percentage of earned minutes within the available minutes. If one earns all the available minutes then efficiency is hundred percent.

Enterprise Based Training Centres (EBT)

This is a training centre situated inside a factory. The training centre trains employees of the company. The training is carried out according to the company needs only.

Free on Board (FOB)

The manufacturers prepare goods on their account and have the goods on board the ship or plane. Only then does he get paid. Therefore, the manufacturer will have to spend on manufacturing before he gets paid. In other words, the manufacturer has included in the price of the merchandise the transportation to port and loading aboard the ship.

Foreign Direct Investment (FDI)

With the advent of globalization foreign firms invest in the domestic industries of other countries. Investing in such countries is normally attractive because of better infrastructure facilities, economic conditions and tax benefits. However, political

stability has been a major deciding factor in the case of FDIs. China and Korea have attracted a large number of foreign companies to invest in their economy in the recent past.

Gross national product (GNP)

GNP is the measure of economic activity of a country. It is also the present dollar value of all the finished goods and services produced in a country during a year. When the GNP is divided by the country's mid-year population, it is then known as 'per capita GNP'.

General Agreement on Tariffs and Trade (GATT)

GATT was established in 1947. Its objective was to promote unrestricted trade, particularly the reduction of tariffs. A founding principle of GATT was its "most favoured nation" provision, which meant that if a country gives a trade advantage to one country, it should give the same advantage to every other country with which it trades. It provides an equal opportunity in trade. GATT has been replaced with the World Trade Organization (WTO) (Dickerson, 1991, p. 36).

Hypothesis

Hypothesis is a predicted answer to a research question. This prediction is made before the research is begun. The prediction is arrived at by using reasonable facts.

Industry Oriented Training (IOT)

Industry Oriented Training is for those who are employed. Therefore, their training programmes are different from those of school leavers because they have experience in the subject that is being taught. Therefore, it is more practical and industry oriented.

Industry Based Training (IBT)

Industry Based Training is for those who have not had any experience in the industry. As such, their courses are more of a theoretical nature but practical exercises are often introduced.

Joint Apparel Associations Forum (JAAF)

This is the apex body of apparel associations of Sri Lanka. This was established in 2002 and its objective was to represent industry matters with Government and international bodies. There are five clothing related associations as members of JAAF. It is the voice of the industry when come to negotiations with the Government.

Key Performance Indicators

These are important production, human resources, and finance and management parameters. They are productivity, efficiency, absenteeism, labour turn over, cost per minute, on time delivery etc.

Labour Turnover (LTO)

This is the number of employees that left the organization during a period. It is normally expressed in terms of a percentage.

Multi Fibre Arrangement (MFA)

The Multi Fibre Arrangement was a protectionist measure to international trade in textiles. It first became effective in January 1974 and ended on 31 December 2004. The arrangement provided guidelines for bilateral export restraint agreements. MFA was an umbrella arrangement, under which bilateral agreements are concluded (Dickerson 1991, pp. 305-324).

Outward Processing Arrangement (OPA)

This is a combination of domestic production with a special type of offshore production. Normally, a high wage country prepares the cut components and then the garment components are put together in a low wage country. Under this system, the tariff is paid on the 'value added' rather than on the total value of the product. Labour intensive parts are made in the low wage country.

Post Training Period

This is the period between the completion of training and commencement of the measurement of the outcome of training. The post-training period is proportional to the imparted skill.

Product Development

Product development (PD) is basically developing a product. There are two ways of doing it. The first is that a product is conceived through innovative means and such ideas are developed into a product. The other is producing a product which has already been produced. Here, it is checking the capability of reproducing a product while the first is creating a brand new product**.**

Productivity

This is the ratio between out put and input. Productivity is the relationship between the output generated by a production or service system and the input provided to create this output. It is the efficient use of resources. Higher productivity means accomplishing more with the same amount of resources or achieving a higher output in terms of volume and quality from the same input. The output is always of good quality and therefore quality is imbedded in productivity (Prokopenko, 1992, p. 3).

Strategic Training Method

Strategic training method means a carefully considered training system for enterprise based training specifically aimed at key performance indicators, which are strategic for the well-being of the industry. In other words, it is aimed at strategic business parameters so that training effectiveness would bring about immediate results.

Textile Complex

The textile complex refers to the entire industry covering fibre growing and production to spinning and weaving to finishing of fabrics and clothing production, to home furnishings and industrial products to the retail industry. It is a vast industry.

Training

Training is the imparting of skills and performing the task perfectly. In other words, it is acquiring the skills to perform a task well.

Training Delivery

Training delivery is the art of delivering the training. There can be many methods of delivering a training programme, for example strategic training method, competency based training method, demand driven training method, case study based training method, e-learning based training method, etc.

Training Method

This embraces a large spectrum of the training process. Training method includes training needs analysis, curriculum development and selection of suitable trainees, imparting the skills and knowledge and finally application of the skills.

Training Cycle

This is more or less the same as the training method but it has an additional aspect, which is post- training care. This is to ensure that the trainee is capable of smooth transfer of skills to the job.

CONTENTS

Abstract

The research investigates and analyzes the determinants of enterprise level training in the context of training effectiveness in the clothing industry of Sri Lanka. This study has focused on how suitably designed training methods could lead to training effectiveness. The research is based on five different training methods carried out in export oriented clothing factories in Sri Lanka. Participants for the training programmes have been selected so that optimum results can be expected out of them. Performance indicators such as efficiency, productivity, HR data etc. have been considered as measurement of training effectiveness.

Findings on the determinants of training effectiveness are in line with the empirical study. The empirical study has been carried out to understand the current status quo of training in the clothing industry. The empirical study did not show any productivity improvements due to training. The training effectiveness of the training methods is far more intricate and heterogeneous than the conventional knowledge suggests. There are some pertinent explanations of the research findings on the negative impact of training effectiveness. The training experiments did not support the idea that training would enhance the productivity.

Chapter 1

The Strategic Corporate Training Method to Sustain Organizational Productivity in the Clothing Industry of Sri Lanka

1. Introduction

This research has investigated how strategic corporate training methods could help the clothing industry to increase productivity and thereby maintain a competitive cost per minute in the industry in order to sustain a share in the global market. Further, the research has attempted to explore the relationship between training methods and training effectiveness which is the outcome of training in a developing country. The proposition is that "training will cause productivity improvement which in turn reduces the cost per minute". As such, the research has investigated the effectiveness of training and its ability to reduce the escalating cost of production in the clothing industry of a developing country.

Attempts have been taken to understand the strategic corporate training in this study. Corporate training known as enterprise based training, is specifically aimed at a key parameter which is strategic for the wellbeing of the industry. The training is aimed at specific parameters which need to be upgraded in order to survive the industry from competition.

Knowledge is a very powerful tool which is inevitable for progress and successfulness in any activity. History reminds how our ancestors discovered to turn a stone into a tool and how it shifted from reliance on muscle power to mental power. In today's context, people have seen across the Western world, the blue collar jobs have suffered as white collar jobs have boomed (Burton, 2001). Graduates earn three times the annual salaries of their compatriots with lower secondary qualifications (OECD, 1997). Further, stock markets apparently recording higher values for companies with strong intellectual as directs from physical assets. It is interesting to note that in 1990s, for example Microsoft already had a market capitalization three times that of General Motors, while Microsoft's physical assets did not exceed five percent of the industrial giant's. Burton (2001) has mentioned that knowledge has become the only factor of production that matters. Burton (2001) said "we are moving into an area of knowledge capitalism".

It seems from the foregoing paragraph knowledge is important and in the industry it is transferred in the form of training. Knowledge and training both work in concert in the

industry. Therefore, this research has explored the effectiveness of training in an industrial context. How training could deliver desired outcomes?

2. Background

The clothing industry of Sri Lanka has gradually improved over the years and has now come of age. The clothing industry is the major gross foreign exchange earner of Sri Lanka. Since the liberalization of the economy in 1978, the clothing industry has demonstrated phenomenal growth until recently. Sri Lankan clothing exports grew from US$279.99 million in 1985 to US$1665.19m in 1995 (Pararajasingham, 2006, p. 191) and US$2684m in 2004 (Kuruppu, 2006, p. 128) to US$2987m in 2006 (Central Bank [CB], 2006, Annual Report). During this period the growth pattern of this landscape has been in a descending order. First, it had a growth of 83 percent and then to 38 percent and finally dropped to 7 percent in 2006. The growth in 2006 over 2005 was a mere 6.7 percent (Sri Lanka Garments, 2007, no.85. p. 35). The same pattern was maintained during 2007 with a growth of 7.1 percent over 2006 (CDN 2008, 28th Jan.). If one takes in terms of textile complex, which is textiles, wearing apparels and leather products, grew by 4.3 percent in 2006 in comparison to the growth of 4.9 percent achieved in 2005 (CB, 2006, p. 33). However, if one looks at the past decade from 1996 to 2006, there has been a growth of 43 percent and 35.8 percent growth between 1997 and 2007 for garments alone. It is that in more recent times the growth has been retarded for garments. This could be the result of the Multi Fibre Arrangement (MFA) removal and the advent of the quota free era which has brought severe competition. The growth of volume has been steadily growing but the turn over is slowing down.

This means that sales prices are coming down hence overall growth in terms of value is less. During the period of 2001 to 2006 Sri Lanka's clothing exports grew in volume from 436 million pieces to 613 million pieces which is 40 percent. During the same period the growth in terms of value was 28 percent (US$2334m to $2987m). This is due to competition in the global market and the sales price is significantly low. It must be said that reliance in the clothing industry is so large and therefore, all efforts must be taken to sustain the export clothing business of the country in order to keep at least over 300,000 direct jobs and some 700,000 indirect sundry jobs in the industry. The clothing industry's contribution to GDP in 2000 was at 5.9 percent and in 2004 it was 46 percent. The contribution to export revenue was forty six percent in 2004 (CB, 2005, Annual Report).

A direct consequence of phasing out of MFA is expected to enhance competition. This is seen as a challenge to the Sri Lankan clothing industry. The research will examine how the training could help the industry to meet this competition. Further, it will identify the key elements in the competition and how could at least one of them help the industry to make a change in terms of growth and to sustain the clothing export business of Sri Lanka.

An initial study carried out amongst the clothiers in February 2003 revealed that Sri Lanka will face a severe challenge during the post MFA era and that the industry is not ready for this challenge (Research Questionnaire 1 of appendix 2). This study also demonstrated that price competitiveness would be the main factor in the competition. There are other factors such as fashion/design and differentiation, flexibility and quick response, delivery etc are also important in the competition. However, the general consensus is that the future can be bleak and some action plan must be put in place if we were to sustain this industry.

Therefore, to overcome this situation the industry experts along with the industry associations, which are known as Joint Apparel Associations Forum (JAAF), launched a five year plan to combat the future challenges. The researcher decided to examine how training could be a catalyst in the price war. This is because, in the study carried out in early 2003 revealed that, the main factor in the competition is 'price' in the Sri Lankan context. Therefore, the belief is that training could enhance skills which in turn improve productivity and the cost of production can come down. As explained earlier, with the price being very competitive, all efforts must be geared towards brining down the cost of production. Only then, a competitive price can be offered. To do this, it is necessary to improve efficiency of production. The efficiency can be improved only by having skills and technology. The skills are necessary to reduce waste, increase production and to manage production. These factors will enhance efficiency and productivity of the company. The skills required to improve efficiency and productivity must be imparted to all employees of the company. The skills can be imparted by training. This is the background to my study. The study is to examine the effectiveness of training through examining if training actually delivers the results in the Sri Lankan context.

Another investigation, RQ 2 (Research Questionnaire 2 of appendix 2) was carried out recently to understand the price competitiveness. This questionnaire (RQ 2) was administered in the clothing industry. This questionnaire revealed that price is very competitive and it is coming down year by year. The cost of production must be as low as possible in this context. Preliminary investigations revealed that cost per minute in a medium to large company must be around US$0.05. This is even difficult now, with the escalating cost of living. This means,

the industry has to be very efficient to keep the cost down or produce value added clothing to survive. To fulfil this requirement, perhaps the entire work force must be highly skilled and therefore training is inevitable. The training must be strategically planned to achieve production goals.

3. Research Question

The Sri Lankan clothing industry is up against global competition. As a result, competition can gradually shift the industry from this country to a place where it can sustain global market share. From this scenario the main research question was derived:

How could strategic training be effective and improve key performance indicators of a clothing factory in order to be competitive?

4. Justification of the Research

The export oriented clothing industry of Sri Lanka is the leading foreign exchange earner of the country and the second largest employer with about million people earning a living out of this industry. Most of the employees are from rural areas. The industry is also scattered around the outskirts of major cities. Therefore, the industry has provided a great opportunity to awaken the villages in the rural areas. We have seen infrastructure development in the rural areas and this has caused a change for better in the living style of villagers. In essence, there is development in terms of infrastructure and human resources because of this industry.

The phase out of Multi Fibre Arrangement has caused enormous competition in world trade. As a result, Sri Lanka is facing challenges. According to preliminary studies, the cause for competition is the sales price (e.g., free on board, FOB) Therefore, cost per minute has to be at market rate in order to remain in the competition. Whilst there are many factors that determine the competition, the competitive price would be the Sri Lanka's major concern to secure purchase orders from buyers. Those countries who fail to be at the market price level will give in to those who are competitive. Then, this will result in factory closures and job losses.

In the South Asian sub continent, Sri Lanka is lagging behind other countries but it has shown some growth in the past years. However, it is not a case of success rather a threat. Therefore, it is important to understand the current situation of our industry and suggest remedial action to overcome the competition. Sri Lanka is having too much reliance on the clothing industry

hence it is of paramount importance to safeguard this industry. It contributes a significant amount to the country's GDP.

As such, all efforts must be geared to sustain the industry in order to keep the current jobs in tact. This research will investigate how training methods could help the industry to meet the challenges. There is no previous study available for the clothing industry of Sri Lanka to understand what remedial actions should be taken when the industry meets severe global competition. These reasons should amply justify the research.

5. Significance of the Research

With the advent of the quota free era, the entire industry has been opened to free and easy access to markets thus causing competition. This situation has brought about many challenges to the industry. Some challenges are vital for the survival of the industry, such as cost per minute and product development. This is particularly true to the Sri Lankan clothing industry. Therefore, it is of paramount importance to know how the industry would fathom the global challenges ahead of them. Hence, a study must be carried out to understand the global competition. The preliminary study using Research Questionnaires 1 and 2 revealed that there is competition. To meet the competition the employees must be skilled. This means how training methods could impart skills so that overall efficiency, productivity and number of other key performance indicators could be increased thus industry will grow. Therefore, it is necessary to study the status quo and future challenges and how training methods could be effective to overcome challenges.

6. An outline of the Conceptualization of the Research

The conceptualization of the study (study framework) has to be based on problem and hypotheses. This is explained briefly here.

Problem

A problem is conceptualized through past experience and knowledge in the industry. A research questionnaire is to be designed and administered to understand the problem of the industry. The results of the questionnaire would confirm the problem.

i. Proposition

From the initial questionnaire, a pre-empirical test is planned. The results of the test and further research questionnaires would then lead to a proposition. A proposition is more of a statement of concepts which can be judged as true or false by referring to an observable phenomenon.

ii. Test

A programme would be laid out to test the hypothesis. If the hypothesis is proved then the answer to the problem is found.

iii. The Concept

This research has been conceptualized about training. Training is known to be as, imparting skills to perform a job effectively and to the best satisfaction. Here, the key aspect of training is the training methods. This method includes a gamut of affairs such as, training needs, curriculum development, trainees and imparting skills and this is identified as “training cycle”. If training methods can be effective and successful, obviously the training should result in good performance thus improves the productivity and brings down the cost of production. If this is so, it is now being challenged as to whether training methods could lead to training effectiveness and in effect leads to productivity improvement.

Training is done in many different ways in the industry. There are different methods to impart skills and knowledge. What should be the best training method that helps the clothing industry of Sri Lanka to enhance the key performance indicators is the matter in question? If there is one, that would be the ideal way of training particularly for employees of the clothing industry. This is what is being searched for and it is the research question.

This research has been based on empirical study. There are instances where qualitative data has been considered. Most empirical research has a pre-empirical study where it clarifies the empirical, technical and methodological considerations (Punch, 2000). Therefore, a research

questionnaire has been developed and pre-empirical study has been launched. The research questions and the results of the pre-empirical study followed a proposition which is thought to be a theory. Then a method has been derived to test the proposition. How one carryout research depends on what have been trying to find out? The research problem is defined. The problem to method is carried out. This provides a close fit between the research questions and the method. It maximizes the fit between questions and method/ procedure. The research problem was identified a pre-empirical test was launched and clarified technical matters. From these empirical data a proposition was derived. A method was designed from the data to study the proposition. The data obtained from the test are explained as to how things are proceeding or what happened. The explanation involves finding the reasons for situations; showing why and how they have come to be what they are.

The conceptualization is as follows; with past experience and knowledge, the researcher conceptualized a problem. A research questionnaire (RQ 1 of Appendix 2) confirmed the decision that there exists a problem of competitiveness. Earlier, research questionnaires have been developed and carried out a pre-empirical test to understand the training effectiveness that exists in the industry. From this study a proposition has been derived. It is a predicted answer to a research question. The predicted answer can be expected in most instances. Then it becomes a theory. Here, there is a theory which explains the proposition. The proposition follows, by the deduction method. The deduction method is that a proposition is deduced from a theory and test the validity of the proposition. If the theory is true then the proposition follows. So, when executing the research and studying the proposition, it is actually testing the theory behind the proposition. It is theory verification test because it is testing the theory. From the data and research questions, a method is designed to test the proposition. Then the data from the study is explained.

Whilst there are different methods of imparting skills for employees, it is the emphasis on the overall method itself that matters for successful delivery of training. The training needs, curriculum development to meet the needs, trainees who come on the course, training delivery and acquiring skills, application of recently acquired skills etc are all important to make training successful. This is called ‘training cycle’ and all these parameters must be matched in order to obtain a success, is the belief. Then we can be satisfied that the training method has been successfully carried out. Then, the outcome of training must be measured to know the effectiveness of training. The outcomes are the key performance indicators.

From time to time, industry demands certain outcomes. To meet these demands certain skills are required. When there is a gap in skill, a training need is highlighted. What has been done in the study is to identify such training needs as per demand and develop a curriculum and deliver the training to those who requires such training to bridge the deficiency of skill to perform the demand. Acquiring skills has a number of elements, such as preparation for training (making the environment conducive), training delivery, duration of training, practical nature of training, and the ability to interact with the trainer and fellow students. The implementation of skills too has a few elements such as, trainees must be confident and ready to perform, trainees must be recognized and accepted that they can do the task, and trainees must be continuously motivated and encouraged. These elements in the training cycle are carefully studied in order to understand the performance of training. The effectiveness of training is measured by the outcome in terms of performance indicators. However, those elements play a major role in the overall effectiveness of training.

Here, the training is demand driven and purposeful. However, there are different methods of training. Each method will have the same training cycle. The search is to find which method is best suited for the industry. The variables that cause training effective would be interesting for future investigation.

7. Research Methodology in Brief

i. Introduction

The competition in the clothing industry is gradually becoming intense year by year and the main concern for developing countries is the price. The country must survive the competition in order to earn the most important foreign exchange for the country. Whilst there are many ways to meet this competition, cost competitiveness is the strategy that the Sri Lankan clothing industry would adopt to meet the future challenges. This is confirmed by the questionnaire number 1 which has been administered recently. It is the sales price or FOB (free on board) price that will be offered by the manufacturer to the buyer. This price obviously prevails at market rate world over and it is competitive. The cost cannot be simply reduced. It should be understood and a long drawn plan must be put on place to continue on manufacturing at competitive level. Perhaps, a carefully planned training programme would be necessary to increase production and bring down cost of production. This FOB has a number of components. In a broad sense it is as follows; Raw material cost, Bank charges, Brokerage cost, Labour cost (cut and make cost) and Profit.

The buying price which is different from the FOB will include freight, insurance, customs duty and logistic cost. More often, these costs are met by the Buyer hence it is of no concern to this study.

In the case of FOB price, it is important to keep it as low. Now looking at the above FOB components of the cost breakdown, most of the costs are non variable except the labour cost (C & M cost). It can change. So, in order to offer a competitive FOB price to the buyer, the labour cost must be kept at competitive level. It is the only component that can fluctuate and others are the same to everyone in the manufacturing business. For example raw material cost cannot be different from one company to another because those prices are known to all the manufacturers. Bank charges depend on raw material costs and it is more or less same interest rate for any other company.

C & M cost is calculated by multiplying cost per min (CPM) by standard minute value (SMV). The SMV of the garment cannot be changed because it is a standard. However, one can improve on the minute value by introducing work place engineering or sophisticated technology but such developments are not common in our industry and therefore not considered for this equation mentioned above. If CPM is low, then C & M is proportionately low which in turn factory FOB will be lower. Low means not scandalously low it is only a comparative figure with market rates. To reduce the CPM, it is necessary to increase the number of pieces produced. Normally, expenditure does not increase month after month in a factory, unless some capital investment has been expended. The following formulae explain how cut and make cost is calculated.

$$\text{CPM} = \frac{\text{Expenditure}}{\text{Earned Min}}$$

Earned Min =No. of pieces x SMV of the pieces

C and M = CPM x SMV

To bring down the cost of cut and make, it is necessary to increase the efficiency of the product so that it will produce more pieces in a given time frame which in turn reduces the CPM and this will reduce the C & M cost as well. Once this is reduced, the composite price which is FOB will be reduced. So, the task is to increase the efficiency. What should be done to increase the efficiency?

A proposition is that “highly skilled persons will be happy and will be able to put out higher number of clothing products” because of better efficiency. Training will make them highly skilled and help to produce more pieces. The study will examine how training could enhance production.

The training has three variables, Training Delivery; Acquiring Skills and putting it into Practice or Implementation. All three must synchronize to get the desired outcome. Experiments will be carried out using different types of training methods to understand the effectiveness of training.

ii. Pre-empirical Test

At the very outset a pre-empirical test on training is carried out to understand the current effectiveness of training and its outcome. This test had an aim and objectives.

a. The Aim

The aim of the pre-empirical test is to ascertain the concerns of employees involved in different job categories in the clothing industry.

b. Objectives

The objectives of the pre-empirical study are training to address the concerns of employees and make them happy in work place so that training could be effective. “A happy workforce shall have higher efficiency and better KPIs on HR initiatives” is a proposition.

The pre-empirical method is explained in detail in Chapter 5 and their outcomes are also discussed. From the pre-empirical test it was possible to understand the status quo of the training component of the industry. Such information was used to derive the proposition. Once this was established it is a matter to test the proposition.

In the context of studying the proposition, one would examine further in to the matter by developing another questionnaire to find out the real problem or the concern of the industry. This information would help to formulate the final experiments to test the proposition.

8. Research Objective

To study the effectiveness of training method. The method of training is identified as training cycle (see page 6) and it is this aspect of training which could make a change in performance. Therefore, it is necessary to study the effectiveness of training method.

9. Ethical Consideration

This research does not require approval from RMIT University's Ethics Committee. The researcher has not interviewed anyone to obtain information with regard to this research. Research questionnaires have been handed over to factory staff and have instructed them to duly complete them and return them to the author.

10. Chapter Framework

The chapter framework of this thesis will be as follows; the first is the introductory chapter. It will include the background to the research, the research question which is deducted from the problem, the significance of the study, an outline of the conceptualization of the research, concept and research methodology.

The second chapter is on the clothing industry, training and productivity. The entire research has been based on the clothing industry and it is appropriate to discuss how this industry works in the global context. This section covers the global trading pattern because it is an export industry and statistics about the industry including Sri Lankan industry. This chapter carries an introductory note on training and productivity as well.

The third is the context chapter. It has information about the socio-economic landscape of Sri Lanka. This section covers the industry in general. The literature survey is chapter 4. This section has been divided into three sections, namely, corporate training and productivity; corporate training and training evaluations.

Chapter 5 is the research method and chapter 6 is data collection and data analysis. This section explains how the research has been carried out. It shows in detail about the experiment data and presents how the data have been collected from the experiments and their analysis.

Chapter 7 presents the discussions of the analyzed data and outcomes. These discussions shall lead into the conclusion and recommendations.

11. **Limitations**

This research aimed at training effectiveness. Training programmes have to be developed and physically conducted in the right environment which is conducive to training. When doing such exercises it is difficult to provide such training to many companies. The reason is every one's training needs may not be the same. Further, it is difficult to collect the right people for the training. As a result of these variables, it is felt to concentrate on one large company that would represent the industry.

Most companies do not keep proper production records. This is a phenomenon in the Sri Lankan clothing industry. Data are written down but not in the proper order. It is also not possible to collect data by the author. Therefore, the author had to depend on factory staff to provide data. Sometimes, inaccurate data may have come in. To minimize this error in data, the author wherever possible had personally collected the data.

The researcher was not able to supervise the training right throughout the programme. However, attempts were made to ensure the proper delivery of the training. Therefore, there may have certain lapses in training programmes which are beyond the control of the author.

To have the right kind of participants all the time on the course is not easy. Miss-matched students on the course can give distorted results.

12.Summary

This research is to do with how training methods be used to enhance skills and thereby improve productivity. Efforts have been taken to understand the strategic corporate training methods.

Sri Lankan clothing industry exports grew from US$279 million in 1985 to US$3200 million in 2008. Although there is a significant growth, the analysis of growth will reveal that during the past years it has been a slow growth in value terms. This can be attributed to competitiveness in the global market. This has been confirmed by the results of research questionnaire 1. In order to overcome the competitiveness the industry associations together formed an apex body titled joint apparel associations' forum (JAAF) and in turn formulated a five year plan for the industry. The Sri Lankan clothing industry employs over 300,000

people and therefore it becomes important to see that the industry survives the global competition. This research has been focused on effective training methods in order to meet the business challenges such as competitiveness.

13. Next Chapter

Chapter 2 will deal with the clothing industry at large. This chapter will have information regarding global trade patterns of the clothing industry and vital economic statistics of clothing business in selected countries in the Asian region. Training and productivity being important aspects of this research and as such an introductory knowledge of these two subjects is also given.

Chapter 2

The Clothing Industry, Training and Productivity

1. Introduction

This research is about the clothing industry, training and outcome of training. Therefore, it is useful to have an understanding of the clothing industry, how training is applied in the clothing industry and productivity.

This chapter will present information regarding international affairs associated with the clothing business. That is, how clothing trade works in the global economy. This chapter will discuss the global trade patterns of selected countries in the Asian region that may present a threat to Sri Lankan clothing industry in the context of price competitiveness. Such information is useful to fathom the issues of global competitiveness which in turn helps build strategies to sustain the clothing industry of Sri Lanka. Information about the Sri Lankan textile/clothing industry is presented, along with a discussion on the strategic plan for the clothing industry of Sri Lanka which was drawn out by the Joint Apparel Associations Forum (JAAF). Finally, the issues of training and productivity are discussed as these two subjects play a major role in this study.

2. The Global Trade

Today, nations are interconnected and this has resulted in globalisation. Interaction has caused the global interdependence of nations. It means that producers of other countries are affected by our demand for their goods. Certain countries can produce goods better than we can, so we decide to exchange the money we receive from making our goods for those produced by them. When countries trade they sell their products to other countries and the money earned is invested to buy goods where they are not good at making and that they do not produce. Both countries can potentially benefit producing global interdependence. When buyers trade, they trade for something that is relatively less valuable for something that is relatively more valuable in their country. Certain countries can produce goods better than the other countries. This leads to think why should people buy goods of their own when they could buy goods made cheaply by other countries and even better than their goods.

The real wealth of a country is the availability of goods and services to the people of that country. Therefore, this philosophy encouraged a country to concentrate on products in which its competitiveness is greatest (Dickerson, 1991). Competitiveness provides all countries with large quantities of goods at affordable price. This is known as competitive advantage. This kind of trade exists in the clothing business. However, Ricardo (1960) suggested that countries could benefit from specializing in goods that had comparatively low production costs, meaning a country needs not have absolute advantage to trade.

There are significant differences in patterns of trade between clothing and textiles. The share of clothing exports of all manufacturers increased whilst the share of textile exports decreased (GATT, 1988, pp. 87-88).

When reviewed the relative importance for textile exports during the post second world war period there is a steady decline in the share of world exports in developed countries whilst an increase in the share of developing countries. This is to say there was a drop in exports from developed countries whilst developing countries showed an increase in exports. A similar trend was seen in the clothing industry except for the fact that the trend was more dramatic. The share of developing countries of world exports increased by 10 percent in 1955 to 44 percent in 1987, whilst developed countries' share declined from 71 percent to 43 percent during the same period. Another trend is that developed countries accounted for clothing imports but developing countries did not show a growth. The exports grew from developing countries dramatically but the developed countries became the recipients of these goods (Dickerson, 1991, p. 147). During the MFA period, there has been a marked increase in the clothing exports from East Asian suppliers such as China, Hong Kong, Republic of Korea and Taiwan. The major players of clothing trade were Western Europe and East Asian countries. A large amount of clothing exports from Western Europe came from trade within the region (e.g., Turkey, Portugal). On the other hand North America did not show great export growth. This may be due to the relative disadvantages in labour costs compared to other regions, and the strength of the US dollar and lack of interest on clothing exports of most North American clothing industry. Since the phase out of MFA in 2005, there has been a shift toward China and the South Asian region.

In the context of clothing imports the most significant shift has been the dramatic increase in clothing imports from North American companies. Most imports came to North America from Western Europe and East Asian suppliers. This situation caused, due to the lack of restriction on production from Western Europe and also the advantageous exchange rate for Western countries. Of the developed countries their total purchases, 46 percent came from within the developed countries, 46 percent from the developing countries and 8 percent from the Eastern Trading area. However, there is trade within developing countries for textile exports whilst trade among these countries is rather limited for clothing (Dickerson, 1991, p. 152). Developing countries mostly concentrate of exports to developed countries and there is very little trade within such countries.

3. The Global Trends in the Clothing Industry

For many years, textiles and clothing have been an important sector in the world trade exchanges. The global exports of textiles and clothing were Euro 566 billion in 2004 which accounted for more than six percent of total world exports (Technical feasibility study of unit-consultancy services 2006, pp.1-10). The global clothing exports alone for 2005 amounted for Euro 330 billion (EU website). Whilst the developed countries are playing a dominant role in this industry, it is important for most developing countries to sustain the clothing business for their survival (Kelegama & Foley, 2004).

There are two major markets in the world for clothing products (i.e., USA and EU). The USA has a population of about 270 million whilst EU25 has about 457 million people with a GDP of 10.21. Amongst 25 countries in the EU, Germany, UK, Italy, France and Spain are the major consumers. The major suppliers for them are China, India, Turkey, Romania, and Bangladesh. EU is one of the largest importers (Euro 115 billion of TC products in 2004; Europe website) as well as exporters of textile/clothing products of the world.

The US imports of textiles and clothing grew by only 2.3 percent in 2006 to 52.2 bn square metres equivalent (sme). It had enjoyed double digit growth in the seven years between 1997 and 2004 and 8.3 percent during 2005. Textile production of USA continues to drop as import volumes rise. However, the clothing production grew by 1.0 percent in 2006 after declining each of the preceding 11 calendar years. This may be due to an expansion in consumer spending in the US. Expenditure on clothing and footwear grew by 4.9 percent to US$358.6 bn in 2006 in US (Anson, April 2007, p. 15).

However, US clothing demand contracted in 2008 for the first time since the late 1940s. Sales via clothing and clothing accessory stores, and department stores were down although sales via warehouse clubs and superstores were dynamic. Clothing sales are expected to decline further in 2009 as consumers cut back on their spending and devote a larger share of their disposable income to savings (Textile Outlook International, November 2008, p. 13). EU textile and clothing production also declined in 2008 and clothing output in the third quarter of 2008 came down by 4.7 percent compared with same period in 2007. The first eleven months of 2008 in the EU, textiles and clothing imports from Hong Kong, Indonesia, South Korea, Thailand, Turkey and Vietnam fell by double digit rates (Table 2). The only exception was China which increased its exports to EU by 6.5 percent (Textile Outlook International [TOI], 2008, No.138).

The downturn in clothing demand in 2008 in USA caused a drop in sales in department stores and in clothing accessories stores. Sales in department stores fell by 4.5 percent in 2008 compared with previous year to US$200,437 mn while clothing and clothing accessories fell by 1.7 percent to US$220,795 (Textile outlook International, 2008, No. 138). The contraction in the domestic business the demand for clothing imports was dropped in 2008 in the textile and clothing industry in USA. Clothing imports came down by 2.7 percent to 22,694 mn square metre equivalent in volume and by 3.2 percent to US $71,568 mn in terms of value. Table 1 demonstrates the imports by volume in terms of square metre equivalent (sme) to USA by leading suppliers.

The EU increased its clothing imports to Euro61.42 bn (US$84.08 bn). There was also an increase in exports. However, in absolute terms, the increase in imports was much larger. China topped the list of importers to EU in 2007. China enhanced its share of imports into the EU from 35 percent in 2006 to 38.3 percent in 2007 (TOI, Nov. 2008). Table 2 demonstrates clothing imports by leading suppliers into EU during the period of 2006 and 2007.

Imports from Indonesia to USA climbed 27.5 percent to US$3,674 billion. Imports from India were up by 6 percent at US$3,242 billion and from Vietnam by 18.5 percent to US$3,2143 billion. Hong Kong came down from being the region's second largest supplier to fifth as imports from Hong Kong declined by 20.1 percent to US$2,817 billion. Most surprising is that Bangladesh had a rise to US market by 23.3 percent to $2,809 billion. Total imports from the region climbed by 10.6 percent to US$48,882 billion. Excluding China, shipments increased by 8.0 percent to US$29,006 billion. The market share of US with and without China was 66.6 percent and 39.5 percent respectively.

For the first half of the 2007, US clothing imports climbed 6.4 percent to US$35,221 billion, compared with the first half of 2006. In the Western Hemisphere, Mexico continued to loose ground, although it remained the second largest supplier to USA by a wide margin. Imports from the country fell by 12.6 percent to US$5,448 billion. Imports from Central America and the Caribbean are down by 6.6 percent to US$9,609 billion. Market share for Mexico declined from 8.8 percent to 7.4 percent and for Central America and the Caribbean from 14.5 percent to 13.1 percent. Imports from South America totalled US$1,672 billion. The European market share dropped slightly to 3.5 percent as imports from the continent fell 6.6 percent to US$2,619 billion. Italy accounted for 56.3 percent of EU sales.

Table 1: Leading suppliers of clothing imports to USA ((Volume- sme. mn)

Country	2004	2006	2007	2008	% share 2008	% change 2008/07
China	2972.5	6506.1	8033.6	7788.5	34.3	-3.1
Bangladesh	941.7	1306.9	1354.8	1436.3	6.3	6.2
Mexico	1896.2	1472.2	1210.5	1035.2	4.6	-14.5
India	609.3	840.3	867.9	882.9	3.9	1.7

Source. Textile Outlook International [TOI] Nov. 2008, p. 17

Table 2: Clothing imports to EU by leading suppliers (Euro mn)

Country	2006	2007	% share 2007	% change 07/06
China	20751	23547	38.3	13.5
Turkey	8428	9034	14.7	7.2
Bangladesh	4620	4380	7.1	-5.2
India	4138	4172	6.8	0.8
Hong Kong	2559	1704	2.8	-33.4
Indonesia	1463	1232	2.0	-15.8
Vietnam	1071	1172	1.9	9.4

Source: TOI Nov. 2008, p. 32

The first four months of 2006 total imports of textiles and clothing items into the EU from the world diminished by 4.1 percent compared to the first four months of 2005. There is no longer an import surge in the EU neither in the latter part of 2005 nor during the beginning of 2006. China has increased (Table 4) its EU market share mainly at the expense of other EU

traditional sourcing countries. Table 4 shows EU imports and it indicates growth in exports to EU over 2005/06 from countries like Vietnam, Bangladesh and Sri Lanka.

Table 3: EU clothing imports

Country	Value US$ Mn.	Value US$ Mn	Value US$ Mn	% Change	% Change
	2004	2005	2006	2005/04	2006/05
Bangladesh	4,624	4,394	5,755	-5.0	31.0
Cambodia	645	592	692	- 8.3	16.9
China	14,251	20,919	23,390	46.6	11.8
India	3,077	4,019	4,723	30.6	17.5
Indonesia	1,658	1,480	1,744	- 10.8	17.9
Turkey	9,521	9,923	10,139	4.2	2.2
Vietnam	784	851	1,267	8.6	48.9
Pakistan	1,140	969	1,131	- 15	16.7
Sri Lanka	1,012	990	1,209	- 2.2	22.2

Source: Eurostat data, ITCB Compilation 2007

Argentina's textile and clothing manufacturing industries expanded slowly in 2005 to 2006 after growing briskly in 2003 to 2004. Brazil's exports of textiles and clothing suffered an unexpected setback in 2006 as sales were significantly lower to the USA, and the EU. Colombia's exports grew for a third successive year, despite falling demand in the USA, which is the largest market. EU output fell as imports grew despite higher consumer spending and growth in exports (Anson, April 2007, p. 17).

China strengthened its presence as the lead supplier to USA in value and volume but it slowed the growth in 2006. USA has had 11 percent increase in volume and 20.8 percent in value of Chinese products in 2006 in spite of restrictions imposed on wide range of Chinese apparel. In 2002 US imports in volume terms from China rose by 124.5 percent, in 2003 by 67 percent, in 2004 by 40.7 percent, and in 2005 by 43.7 percent.

The second biggest supplier to US is Mexico. Its share to the US market fell by value and volume in 2006. Imports from Caribbean Initiative (CBI) also fell both in value and volume. The big three in the Orient: Hong Kong, South Korea and Taiwan rose by 2.4

in volume and in value fell by 15 percent. Large price drops caused a challenge to manufacturers. However, prices increased for China, Indonesia and Bangladesh during 2006 (Anson, April 2007). Sales by clothing stores grew by 6.2 percent to US$155,352 mn in 2006 in US market. However, demand for clothing in department stores declined by 1.0 percent to US$212,181 mn. Whilst this is so, the discount stores like Wall-mart remain the world's largest retailer. The company's net revenues grew by 11.7 percent to US$348,650 mn during 2006/07. However, net earnings grew modestly by 0.5 percent from US$11,231 mn in 2005/06 to US$11,284 mn in 2006/07. Target's net earnings grew by 15.7 percent from US$2,408 mn to US$2,787 mn in 2006 /07. What matters is sales price or the competitive price.

EU production fell as imports grew, despite higher consumer spending and growth in exports (Anson, April 2007). China increased its exports to EU25 by 12.8 percent in value and its share of EU imports to 29.4 percent leaving many leading exporters a distant during 2006. EU imposed quotas on China in 2005 but still China has progressed on its exports. The introduction of safeguards to the EU market did little to stop the growth of EU imports in terms of volume. Further, growth in terms of value was even steeper, which suggests that EU buyers had to pay higher prices as a result of their decisions to move their sourcing away from China. Value growth in 2005 was 7.8 percent whilst in 2006 it was 10.2 percent (Anson, June 2007). Since, volume and value both are demonstrating growth; it could be believed that there has been an increase in the average import price. These statistics demonstrates that growth is possible in spite of restrictions for China.

One time dominant clothing exporter from the Orient, Hong Kong is experiencing a significant drop in clothing exports because its production has been moved to mainland China. However, production in Hong Kong had a boost when China restricted its exports by imposing quotas during the MFA period. Hong Kong enjoyed the outward processing arrangements (OPAs) because of the quota to Chinese exports but quotas against China were underutilised during the first half of the 2006 and as a result the OPA activity been suspended.

Japan imported 83.4 percent of its total clothing imports from China in 2006. South Korea is manufacturing technologically advanced products such as innovative textiles, technical textiles etc. Korea Federation of Textile Industries (Kofoti) is planning to

enhance its share of technical textiles to 17 percent by 2012 (Anson, April 2007). Following will be the trade patterns of selected countries of clothing industry in the Asian region and their prospects and their trading patterns for survival in the future.

4. Trade Patterns of Selected Countries

i. Vietnam

Vietnam is geographically in the centre of South East Asia and it is on the Pacific Rim. Vietnam shares borders with China in the north and Laos and Cambodia in the west. Vietnam is a socialist country. This country has 56 ethnic groups. The entire labour force in 2006 has been estimated at 44 mn. The minimum monthly wage is between US$35 to $45. Vietnam's economy has been impressive since 1986. This was due to Doi Moi's economic policy which dismantled state control and allowed state and private companies the freedom to operate their businesses according to their best interest.

Vietnam's textile and clothing (T/C) industry was founded in 1897. Embroidery and silk weaving have existed for centuries. The T/C industry expanded during the first half of the 20th century. Textile exports started in 1976 and Vietnam has first exported to Russia. Raw materials have been imported from Russia and finished goods have gone back to Russia. This type of work expanded to other communist countries in 1979 and in 1986 Vietnam signed an agreement with the Soviet Union to manufacture and deliver clothing. During the early 1990s, the Vietnamese industry suffered a set back as communism collapsed in Soviet Union and Eastern Europe. However, they have been able to align with the West to overcome this crisis. The first agreement with the EU was negotiated in 1992 where the quotas have been generous and as such a significant growth in exports has resulted. The USA granted the duty free under the most favoured nation status in 2001 to Vietnam. As a result their exports to US surged. However, in 2003 quotas were imposed by US and there was a drop in exports but it picked up in 2006. No more quotas for Vietnam and this made them quota free to US as they entered the WTO in early 2007 and exports are expected to boost.

The private sector is responsible for 30 percent of the country's textile production. Clothing production accounts for 70 percent of the total production of the country. There are 484 textile firms and 1446 companies making clothing (Saheed, June 2007). This industry employs 2.1 mn people and it is the second largest exporter after crude oil. The textile and

clothing exports rose in 2006 by 21 percent to US$5.8 bn of which clothing accounted for 90 percent. During the first five months of 2007 exports soared 24.3 percent. Vietnam is expected to reach US$10 bn by 2010. In support of this the government is infusing US$3 bn during the run up to 2010.

The government has urged the industry to re-focus on the domestic market in order to reduce the imports. The clothing industry generates 30 percent of its turnover from the domestic market. The key export markets are USA, EU and Japan. The export growth has been fairly steady since 2000 and particularly in 2002 at 40 percent and in 2003 at 33 percent. In the first quarter of 2007 exports grew by 20.6 percent to US$928 mn to US whilst in 2006 it grew by 17.4 percent to reach US$3.1bn for the same market. Exports to EU grew by 37 percent to US$1.2 bn in 2006. Main product of exports is jackets. The most important item of import is fabric which is worth US$2,954 mn compared with US$761 mn in 2000, nearly 288 percent increases over the six years.

There has been sharp increase in investments since the economic reforms. There are 534 projects involving direct foreign investments. The biggest investor in the textile and clothing industry in 2004 has been Taiwan. There are tax based investment incentives in operation. The government sees foreign investment as prerequisite for their growth. The country's stable economic and political conditions and improved business environment have contributed to the growth. Lack of raw materials in the country is a weakness towards this success. Vietnam also has a problem with middle management human resources due to inadequate training.

Vietnam's clothing industry is expected to grow steeply in the coming years and will impose a definite threat to other Asian countries in the region. As in the Table 4, Vietnam has demonstrated 48.9 percent growth over 2006/05 to EU countries and during the same period Sri Lanka has shown only 22.2 percent to EU. These figures are significant in the context of Sri Lanka because Sri Lanka has exported and earned under duty free concession to EU whilst Vietnam earned without such concessions.

ii. India

India is the second largest producer of textiles and clothing in the world being next to China. India is the world's third largest producer of cotton, after China and USA. India is also the second largest cotton consumer in the world after China (Saheed, Feb. 2006). The Indian textile industry is one of the oldest in the world and plays a pivotal role in the Indian economy.

India's GDP grew by six point nine percent in 2004/05 compared with 8.2 percent in 2003/04. Inflation increased to 4.3 percent in 2004/05 from 3.8 percent in 2003 /04. Total exports grew by 12.6 percent in 2004/05 to US$79.69 bn from US$63.45 bn in 2003/04. Textile and clothing amounted to US$13,065 mn representing 16.4 percent of total exports in 2004/05. India's textile and clothing shipments increased by 6.9 percent to US$18,730.0 mn during the 2006/07 financial year, which ended on 31 March 2007. Textile exports alone had shown an increase of 12.7 percent to US$10,035.3 mn during 2006/07 (TOI, Oct 2007). This sector has steadily grown since 1991/92. In 2004/05 the textile sector showed 158 percent higher than in 1991/92. The national textile policy has set a target of US$50 bn by 2010 of which clothing to be worth US$25 bn. In 2004 the labour force has been at 472 mn with unemployment at 9.5 percent. There have been at least 35 mn people employed in the textile and clothing industry in 2005 (TOI, Oct 2007).

India has 237 Universities which provide higher education to nearly 7.0 mn students. In addition India has 175 textile technical institutions from which 5300 students qualify each year (Saheed, Feb. 2006). In the region India has the largest educational establishments.

India's domestic textile market has gradually expanded over the last two decades. The industry has installed new machinery in the recent past. Spindle numbers rose by 174 percent and traditional power loom sector has increased its numbers by 885 percent whilst shuttle loom numbers rose from 16,000 in 1978 to 33,086 in 2004/05. India's textile industry is fragmented in terms of location and manufacturing facilities.

Its production structure is varied, ranging from artisans in one extreme to the organised sector at the other. Technology levels are equally diverse. There are 4200 units of cotton ginning,

2687 factories if spinning which has 3786 million ring spindles and 484000 of open end rotor spinning and 223 composite mills. In 2004/05 statistics there were 209 large scale weaving units with 118,843 looms whilst the small to medium scale has about 413,043 factories with 1,836,856 looms. With all these facilities India produced 30 bn square metres in 2004/05. In addition, India has 3.9 mn hand looms installed with an annual production in 2004/05 reaching 5.7 bn square metres of fabric (Saheed, Feb. 2006).

India has about 60,000 ready made garment industries out of which 50,000 are for woven garment and the rest is for knit goods. The industry is characterised by a huge number of small scale factories with the ability to take on small customised orders and the flexibility to respond to quick changes. New companies have come in with modern production facilities. An important phenomenon is noticed and it is known as “apparel clusters”. Here output is tending to concentrate in an effort to eliminate inefficiencies. India has an abundant cotton supply and indeed, 13 out of 14 major clothing types exported out of India to the EU are cotton goods. In 2005, India was the third largest clothing exporter to the US whilst this country was the fifth largest supplier to EU. However, EU was India’s largest textile and clothing export market during the first 11 months ending February 28, 2007, with 33 percent of total shipments, followed by the USA with 24.5 percent. At the same time India was the world’s fourth largest exporter of clothing in 2005 with a three percent share of world exports following China, the EU and Turkey. This shows that Indian exports were constrained due to quotas. In 2004/05 India had a share of 40 percent in value terms to EU whilst to USA was 30 percent (US$2.5 bn and $1.9 bn respectively). Another important market is UAE to which India had a share of 5.5 percent in value terms in 2006/07. The Indian textile industry is benefited by the abundant raw materials in India. Labour costs of India are highly competitive The Indian government has allowed foreign companies to take a majority stake in retail operations. As a result Wall-mart, a US based company has doubled investment in 2004. In 2002 there were 730 FDI approvals in the textile sector with a total value of US$751 mn. In 2004 there were 27 FDI proposals approved.

Whilst some companies are trying to enter Asia, especially Indian subcontinent, Indian companies are investing overseas because of the need to acquire market share, acquire trusted brand labels and to establish a presence near to the market place so that can offer quick response and gain market know how (Anson, March 2006). Reliance Industries of India, the

biggest conglomerate in India, acquired German-based Trevira in August 2004. Reliance became the largest manufacturer of Polyester fibre in the world in terms of capacity. A few others also followed suit and benefited; one such company is Orient Craft, one of the biggest garment exporters. In mid 2005 it acquired a Levi's in Spain. JBF Industries has set up a new plant in UAE because of the proximity to EU. The firm produces polyester chips as intermediary product in the MMF value chain and has a capacity of 120,000 tons per year and the firm makes staple polyester fibre and partially oriented yarn. JBF produces PET resin using petrochemical facilities available in the UAE. Certain companies in India have taken advantage of the African Growth and Opportunity Act (AGOA) in order to gain access to US market. This is because AGOA countries enjoy duty free access and no quota when exporting to US market.

JCT Industries provides clothing made in Sub Saharan Africa with duty free and quota free access to US. At the same time they penetrate to EU market through Cotonou Agreement (Anson, March 2006). JCT Industries has a textile unit in Senegal and has a capacity of producing 9.0 million metres of woven fabric and 1.0 mn kg of knitted fabric. They have installed 19,000 spindles and 160 Rapiers. Eskay K'nit is another company that has ventured out and they are in China and producing market garments to the Chinese market. There are few companies which are better than rest of the textile firms, examples such as Bombay Rayon's and Bhilwara contemplating going overseas, The Indian industry which was somewhat dormant has become vibrant after the financial reforms in 2004 which brought down duties and interest rates. This has helped to revive the sector and within a short period of time the non profit making companies have been able to make profits and then grow bigger and rapidly (Anson, March 2006).

In the recent past India's economy has shown a significant growth and has resulted in modernisation in the Indian textile/clothing industry. Such changes will bring higher productivity within the industry hence demonstrate competitiveness over other Asian countries in the region, especially Sri Lanka. The average price per square metre equivalent (sme) for India is much less than Sri Lanka (Table 4). Therefore, India can be a potential threat for the Sri Lankan clothing industry in the not too distant future

iii. Bangladesh

The clothing industry of Bangladesh is playing a vital role on their economy. It is the major employment provider having about two million workers by 30th June 2007 and foreign exchange earner which accounted for US$9,211.2 million for year 2006/07. This amount account for 75.6 percent of its total exports (TOI, Oct. 2007).

In the recent times Bangladesh have been able to demonstrate competitiveness despite mounting competition from large, vertically integrated suppliers such as India, China, Indonesia and Vietnam. Bangladesh manufactures uncomplicated yet recognised brands at very competitive prices. The average price of clothing products exported to US market during the period January to August 2007 was US$2.31 per square metre equivalent (Table 4). This price is lower than most other major Asian producers. This is their success so far.

Table 4: Average Price per SME from Sources to USA.

Country	Per SME (US$)
China	2.85
Cambodia	2.86
India	3.64
Philippines	3.75
Sri Lanka	3.79
Thailand	3.35
Vietnam	3.42
Bangladesh	2.31

Source: Textile Outlook International (TOI) No. 131, Oct 2007, p. 70-71

Bangladesh's total clothing exports rose by 16.6 percent to US$9211.2 mn during 2006/07 financial year which ended June 30th 2007. Out of this amount, woven clothing exports grew by 14.1 percent to US$4657.6 mn whilst knitted showed a growth of 19.3 percent to US$4553.6 mn. During the same period the domestic production index for clothing, leather goods, Jute and cotton increased by 13.5 percent. Also, production of cotton fabrics was up by 16 percent to 36.3 mn metres. Bangladesh had exported 63 percent of the clothing to EU whilst 34 percent to USA in 2007. Bangladesh enjoys duty free access to EU due to generalised system of

preferences (GSP) scheme. Bangladesh's exports grew by 12.3 percent during the period of June to January 2007 to US$2190.5 mn after growing by 22 percent to US$2997.9 mn in 2006 to USA. Bangladesh is the sixth largest clothing supplier to USA during January to August 2007. Bangladesh's strength lies in cotton garments. They are cotton trousers, cotton knitted shirts and blouses, cotton brassieres and men's and boys' cotton woven shirts.

Bangladesh is lobbying for duty free access to the US market. The legislation was introduced to US Congress and yet it has not been enacted. To qualify to this system one would require at least 35 percent of the value of the finished product to be added in Bangladesh or any other beneficiary country (TOI, Oct 2007). Bangladesh has demonstrated during the immediate past years a steady growth in their export earnings of clothing products. Their factories are very effective hence they offer competitive prices to buyers. This situation has caused Sri Lanka a problem because of buyers moving away from Sri Lanka to Bangladesh. The cost per square metre equivalent is lowest in Bangladesh (Table 4) and this will cause a huge threat to the countries in the region. The major reason for them to be very competitive is the wages they offer to their employees. Their employees work long hours until they complete their targets and this is not possible in Sri Lanka yet Sri Lanka is far away when compared with Bangladesh in terms of pricing.

iv. Pakistan

Pakistan's major market is USA followed closely by the EU. Textiles and Clothing together demonstrated a growth of 11.9 percent to US$3250.2 mn in 2006 to USA. However, January to August 2007 Pakistan had a drop in the growth mainly due to decline in textile exports. Pakistan's exports to US dropped by 11 percent to US$1140.2mn during January to August 2007.

Textile and clothing exports to EU market had a growth of 9.4 percent to US$1400.8 mn. However, EU imports of clothing alone from Pakistan were up by 1.5 percent to Euro 393.0 mn during January to May 2007.Pakistan's exports of textile and clothing went up by 5.6 percent to US$10,782 mn during the 2006/ 07 financial year which ended on 30 June 2007.

Foreign direct investment (FDI) in Pakistan's textile and clothing industry grew steadily between 2002 and 2006. FDI inflows in 2006 reached US$62.0 mn which was 46 point two percent higher than in the previous year. But during January to May 2007 were down by 2.8 percent to US$21.9 mn. Pakistan has set a target for textiles and clothing exports in 2008 at US$12,216 mn an increase of 13.3 percent over 2006/07. Pakistan has requested duty free access to US market and this is being considered.

v. The Philippines

The Philippines have nearly 84 mn populations. Here, 35 percent of the population is below 14 years of age. Further, 61 percent of the population is between 15 and 64 and only 4 percent are over 65 years of age (TOI, Feb 2006). The estimated life expectancy is 67 for males and 73 for females. In 2005 there were 36.7 million people were employed and 12.2 percent of the population were unemployed.

As is the case in most developing countries, the textile and clothing industries plays a vital role in Philippines economy. Its industry expanded between 1960 and 1970 but recently experienced a decline. The main cause for this is no new investment in technology whilst global competition also a contributing factor for this slump (Saheed, 2006).

Philippines have been a dominant exporter to North America and to Western Europe. Textile and clothing sector is the second largest source of export earnings with 6.2 percent share. In 1997 it had share of 10 percent.

The Philippines has good cotton industry. This country grows cotton in southern Cebu. The entire textile and clothing sector employs about 320,000 people and additional 700,000 as home workers and as sub contractors. During 2005 the Philippines exported clothing to the value of US$2.54 bn. There are 945 factories and 854 sub contractors. The clothing sector reached the peak in 1991 when it represented 35 percent of the country's total exports and had approximately 1.0 mn employees. Since then it has been coming down and now employs not more than 20 people per company. Nearly, 80 percent of the manufacturers are classified as small. Most clothing factories are fully owned by the locals.

The Philippines exports grew by a sizeable 19 percent from 1970 to 1995 but started to drop between 1995 and 1997. There has been a slow growth in years between 1998 and 1999. Its exports dropped from US$2795 mn to $2542 mn during 1995 to 2005. But in 2005 she had a

growth of 5.5 percent. The number of clothing exporters fell by 6.1 percent between 2002 and 2004. It is only larger manufacturers do clothing exports. The clothing industry is capable of making constructed garments and intricate embroideries and designs. Also, the industry is placing more emphasis on producing branded clothes.

The quota free era has caused severe competition and things are much tougher now. The USA is the main market (80 percent) whilst EU is the second largest (11 percent).Within the US imports Philippines ranked 13th and 26th in EU in 2005. Cotton clothing, mainly trousers, accounted for 64.6 percent of the value of exports to the US during 2005 (Saheed, 2006). Philippines are losing its US market share to China, India and Vietnam.

vi. Indonesia

Indonesia is one of the dominant global sources for textiles and clothing. It has been ranked 10th among the world's leading textile exporters and ninth among the clothing exporters. It is the leader within ASEAN (Association of Southeast Asian Nations) for textiles and clothing exports. Indonesia surpassed India and Hong Kong to become USA's second largest Asian suppliers of garments after China (Apparel Digest, 2007 Issue 85). Textile and clothing are major industries in Indonesia and contributes significantly to the nation's economy. Indonesia employs 1.2 mn people in this industry spread over 4500 factories. In 2005 Indonesia earned US$8671 mn from textile/clothing exports which represented 10.1 percent of the country's total exports.

The unemployment rate in 2005 was an estimated ten point nine percent. The labour force amounted to 94 million which is 42 percent of the population. Out of which 1.2 mn are employed in textiles/clothing industry as direct workers. Further, 3.5 mn people are employed indirectly in textile related areas such as accessories, sales and distribution.

The labour costs in Indonesia's textile/clothing industry are among the lowest in the world. The wage cost for clothing workers are US$0.27 per hour. It is being said (Saheed, Feb. 2006) that their labour costs are 5 percent of the total costs of garment and it is compared 11 percent with India, 13 percent in Turkey and 47 percent in US.

Indonesia has 2368 clothing factories and with total annual capacity of 580 mn dozen pieces (Saheed, 2006). Many of the clothing manufacturers are small or medium size. Whilst a small factory employing five to 10 people and larger factories have about 200 and some have even1000 workers. Most clothiers can be highly flexible thus meet a variety of order sizes.

Indonesia exports textiles and clothing to about 130 countries of which primary markets are the US and EU. The US market took US$2979 mn worth of exports in 2005. Exports to EU were US$1702 mn of which clothing was US$1495 mn in 2005. Within the EU, Germany, Italy and UK are the major markets. Within ASEAN Malaysia, Singapore and Thailand are useful markets. Clothing exports showed an increase from US$2958 mn in 1997 to US$4967 mn in 2005 making an increase of 68 percent (TOI, June 2006, p. 11).

Indonesia is also a dynamic clothing exporter. They have shown a significant growth during the year 2006 to EU (Table 3) and continue to grow because of its advantage of having fabric manufacturing mills.

The countries mentioned above will definitely pose a threat to Sri Lanka in the future and therefore, it is of paramount importance that Sri Lanka adopts a strategic plan to overcome the competition from the Asian region. Hopefully, this research would provide some insight when formulating this proposed strategic plan.

5. The Sri Lankan Textile / Clothing Industry

i. History - Textiles

Food, clothing and shelter have been man's basic needs from time immemorial. In ancient era, man hunts for food and used the skin of animals to clothe him. Then man settled to grow his food and rare animals, he also began to use the vegetable fibres in his clothes. Archaeological excavations of ancient civilisations, cotton textiles have been found in Pakistan in 3000 BC. Cotton fabrics have also been found in Egypt dated 2000 BC. Recorded evidence on cotton is found in Hindu Rig veda hymn written about 1500BC and ancient religious books specified that the threads of the clothes of Brahmin must be made out of cotton (Pararajasingham, 2006).

The oldest method of manufacturing textiles can be described as hand spun and hand woven and such textiles have been found in the civilisation of 5000 years ago. Extremely fine muslins were used to wrap mummies in Egypt and were worn by Roman Emperors. The excavations of Mohenjo – daro in Pakistan found fabrics in 3000 BC were dyed purple and Sindh is popular for its block print called Ajrak which means blue.

The art of cotton spinning and weaving originating in the Indian sub-continent appears to have spread to Egypt, Central Asia in the west and to China in the east. Sri Lanka by its cultural linkages and proximity to India must have imbibed this art at a much earlier period than Egypt, west Asia and China. The earliest recorded evidence in Sri Lanka is in Mahavansa wherein it states that when one of Vijaya's men went after a Yakshini, he found at the foot of a tree Kuveni spinning thread. Vijaya's arrival has been recorded as around 543 BC. There is archaeological evidence of the use of the ancient Brahmi script in Ceylon (Sri Lanka), which had its origins in India. Therefore, it leads to believe that art of weaving from India must also have been transferred to Ceylon. Emmerson Tennent in his book on Ceylon is of the opinion that the aborigines who occupied Ceylon before the arrival of Vijaya practiced the art of weaving. Ceylon was then inhabited by the Naga and Yaksha tribes to whom engineering feats have been credited. Cotton spinning and weaving must necessarily have been within their capability.

With the decline of the Anuradhapura/Polonnaruwa period textile weaving declined. During the 13th century, Vijaya Bahu III of Dambadeniya revived then weaving industry. The arrival of the Portuguese and Dutch did not help the weaving industry. After Dutch occupation textile dyeing industry developed in Jaffna. The advent of the British saw the general decay of traditional crafts of weaving in the country. De Silva in his book *Ceylon under the British* records that cotton used for coarser varieties was produced in Ceylon. The Dutch had established a plantation at Mannar in 1803. In1920 the cotton cultivation shifted to south of Ceylon, Hambantota.

The first integrated textile mill, Wellawatte Spinning and Weaving Mill has been established in 1888. Mr. William Mitchell managed the mill. The machinery came from manufacturers in Bolton and Blackburn in the UK. The Engineers, Spinning, Weaving and Dyeing Masters were all from either Lancashire or Yorkshire. At that time the mill had 9600 spindles and 234 looms producing 4000 lbs of yarn and 14000 yds of cloth per day. It occupied 28 acres in Colombo. In 1922 it had a huge expansion and thus production increased to 10000 lbs of yarn and 34000 yds of fabric per day. In 1966 it had a further expansion and at time mill had installed 1156 looms. A sister company was established and it is named Ceylon Silks to produce synthetic textiles in 1964.

The textile manufacturing industry in Sri Lanka really grew since 1960. The National Textile Corporation came in to being by government gazette on 10 January 1958 to develop the textile industry. It put up five integrated mills. In 1978 the corporation was converted to a

government owned Business Undertaking under the Business Acquisition Act. And this enabled the corporation to hand over the mills to private sector management.

A handloom industry existed but today it has disappeared. During the 19th century the handloom industry was confined to three provinces, viz, Northern, Eastern and North Western provinces. The handloom industry played a major role in the rural economy in providing jobs.

All the private textile mills came into being in the 1960s and they concentrated in making synthetic fabrics. By 1978 there were 28 such mills. However, with the liberalisation of the economy in the country most of the private textile mills closed.

ii. The Clothing Industry of Sri Lanka

With a modest beginning in the mid 1960s the industry had a slow growth during the early stages and by 1971 the total value of clothing exports had reached only Rs.5.0 million. However, by 1977 it went up to Rs.143 million. With the liberalisation of trade in 1978, the clothing industry derived a great impetus for accelerated growth. The clothing industry at the early stages did receive support from the multi fibre arrangement (MFA) which is a method of voluntary export restraints based on allocated quotas. In 1978 clothing exports were Rs.400 million and this went up to Rs.9629 million by 1986 where it surpassed traditional exports of tea and rubber. However, the matter of concern is that value addition of clothing exports in Sri Lanka. The value addition is about thirty percent at the present time. This means seventy percent of foreign earnings from this industry are spent to purchase or any other activity by way of foreign exchange and value addition is just 30 percent.

The clothing industry of Sri Lanka has been developed over the years so that the industry is no more manufacturing basic clothing as in the past. The total number of factories recorded in the Tertiary and Vocational Educational Commission (TVEC) of December 2006 is 979 as against 1061 in 2001. Out of 2006 figures 53 percent are located in the Colombo district and Western Province. The total number of sewing machines installed is approximately 271,085 whilst the employment is around 486,632 (VET Plan for Garment Industry, TT&SC, 2006). The industry is predominantly staffed by females and it accounts for nearly 84 percent of its total work force (VET plan, 2006). Further, 68 percent of the Supervisors are females. The male representation is high in occupations such as sewing machine mechanics- 100 percent; Electricians 100 percent; Cutters 88 percent; CAD Operators 85 percent; and Fabric Inspectors 86 percent. Males continues to dominate in Senior and Middle Manager categories

accounting for 85 percent and 69 percent respectively (VET plan, 2006) Most of the employees are in the age group of 18 to 24 which is 39 percent and twenty five to twenty nine is 44 percent and their educational level is GCE (O/L). The Executive level is staffed with graduates and those with professional qualifications accounting to ten percent.

The Average Labour Turnover (LTO) for the country has been at 5.6 percent in 2006 as against 3.8 percent in 2001. The average absenteeism in the clothing industry has been at 5.5 percent in 2006 whilst 3.9 percent in 2001.

The factories are classified according to the number of machines installed (VET plan, 2006) Table 5 provides classification of factories. Here, the factories have been classified as small, medium, large and extra large and these groups have been made according to number of machines installed.

Table 5: Classification of Factories

Small	Up to 100
Medium	up to 101 to500
Large	501 to 1000
Extra Large	Over 1000

Source: TVEC 2006, VET plan, p.3

Sri Lanka's clothing industry has graduated from one that has been producing utility garments to an industry that now manufactures quality and fashion garments based on buyer's designs for which there is a growing demand in international fashion market. However, the industry to compete in the global market it will have to develop technical excellence and marketing expertise. To make the clothing industry competitive the government of Sri Lanka has offered certain incentives to the industry.

Domestically sourced export industry that is registered with the Textile Quota Board (TQB) or Export Development Board (EDB) will be brought under the suspended VAT scheme with a facility to manufacturers on a differed VAT basis. This arrangement will result in relieving these companies of the cash flow burden faced by them. Also sub contract income to be treated as deemed exports provided such income is received in convertible foreign currency from the company which is exporting the final product. Further, the capital goods imported by registered clothing companies for export production is exempted from VAT liability. Pal-Port

levy be reviewed in 2007 and PAL will be reduced to two percent and Port levy to be increased to three percent but concessions to be given to companies running high value added business. Electricity is exempted from VAT. Economic Service Charge (ESC) has been changed providing for the reduction to 0.1 percent.

MFA phased out in 2005 in four stages. The first phase out was on unimportant categories and only at the last stage they phased out the hot categories. The gradual phasing out of the MFA caused intensive competition which consequently resulted in a number of innovative measures such as product innovation, process, marketing and organisational structures in order to offer its customers a better service (Wijayasiri, 2008).

When the quota categories became non quota categories the prices of those garments came down. The Table 6 below describes how competitive is China and their prices are below world's price. This table explains the competitiveness of the Chinese products. The quota category 331 has been reduced by 5.2 percent whilst Sri Lanka has increased its value by 0.3 percent for same product. Similarly, quota category 670 has come down by 6.3 percent in China whilst the world has reduced only 2.8 percent of the previous market rate but Sri Lanka has been able to reduce only by one point two percent. These data explains the competition that this industry operates and it is bound to be more competitive as years go by.

Table 6: Percentage Change of Prices in Exports to the USA by FOB

Country	239	350/650	349/649	670	331/631
World	1.1	2.0	0.4	2.8	0.9
Sri Lanka	-	3.1	0.9	-1.2	-0.3
China	5.2	4.1	1.8	6.3	5.2

Source: Facets of Clothing Industry of Sri Lanka, 2006, p. 127

For the past so many years FOB prices have been falling annually. The winner is the American consumer! It seems US saves US$312 million at retail (Birnbaum, 2002).

The next successful country is China because this country has been able to increase their exports by significant numbers mainly due to competitive price. Actually, as observed, only those who are competitive can survive in this fierce business atmosphere. Only those countries who can keep ahead of the competition will survive.

Table 7: Global Export Statistics of Sri Lanka's Clothing Industry.

Year	Quantity	Quantity	Value
	Pcs./Mn	Kgs. Mn	US$ Mn
2000	468.33	28.13	2,723.23
2001	436.00	24.05	2,334.57
2002	422.92	23.19	2,246.40
2003	446.21	19.89	2,400.02
2004	500.9	21.43	2,654.20
2005	533.05	31.70	2,786.24
2006	613.90	27.27	2,987.15
2007			3,200.00

Source: Sri Lanka garments issue 85, 2007, p. 35

In 2001 Sri Lankan clothing industry showed a negative growth of 16.6 percent in value terms (Table 7). This has been mainly due to US recession and Sri Lanka's on going war. During 2002 there has been a further drop but not significant as the previous year. As per Table 7, 2003 showed a modest growth of 6.8 over 2002. All quotas have been integrated during 2004 and therefore, a 9.5 percent growth has been recorded. However, there has been a steady improvement since then. The increases are in value terms 4.9 percent and 7.2 percent for 2005 and 2006 respectively. The trend for 2007 is slightly better than 2006.

Monthly earnings of exports to US have been exhibited in Table 8. There is no significant change in monthly earnings over the years (2004 to 2007). However, the Table 8 indicates that there is better earning pattern during the first half of the 2007 which is a matter of satisfaction.

Table 8: Comparison of Clothing Exports to the US Jan to June 2007 (US$ Million)

Year	Jan	Feb	March	April	May	June	Total
2004	119.90	108.10	111.50	73.60	102.40	132.70	648.20
2005	150.40	133.30	129.10	107.00	107.00	143.80	770.60
2006	98.50	144.50	130.30	121.80	105.00	153.00	753.10
2007	122.40	144.80	138.80	109.20	149.10	135.40	799.70

Source: Sri Lanka garments 2007 issue 85, p. 35

It is interesting to note the relationship between quantity and value in the Table 7. Normally one would expect when there is a growth in value to have a growth in volume or quantity. In year 2002 Sri Lanka's exports showed a negative growth in the volume but a reasonable growth in the value over 2001. That means the sales prices might have been better than previous years or country has produced more value added garments. However, the rest of the years up to 2005 have shown a positive correlation between the volume and value. But during 2006 there is a significant increase in the quantity, a figure of 13.1 percent but the value increase is not proportional to the volume. This means there is a definite drop in the sales price. It indicates the price competition is on. To overcome this challenge one must produce more pieces. The standard hours or the earned minutes must be increased. One way of meeting is to have a higher efficiency.

Sri Lanka's composition of exports remained almost unchanged in 2006 compared to the previous year. Industrial exports grew by 8.8 percent in 2006. Despite the intense global competition, clothing exports grew by 6.7 percent in 2006. Although clothing exports to the USA declined marginally, exports to the EU including clothing increased significantly by 18.4 percent partly capitalising the concessions offered by the GSP + scheme. Sri Lanka's clothing exports reached US $ 3.2 billion mark in 2007. This is 6.7 seven percent growth which is low when compared with the Asian region. An interesting point to note in the export scenario is the value addition earnings by the country. This must be very low in Sri Lanka when compared with South Asian countries. Sri Lankan industry is heavily dependent on imported fabrics and accessories. The import of raw materials for the export oriented clothing industry account for almost half of total exports of the clothing industry (Wijayasiri, 2008). Figures 1 and 2 illustrate how the Asian countries performed in US and EU during the period of 2005 to 2007. China has dominated the exports to both markets whilst India and Vietnam

have shown some export growth but no where near China. Therefore, China is a threat to all countries in the region in the context of clothing exports.

Export Performance

Figure 1: Apparel Exports to US

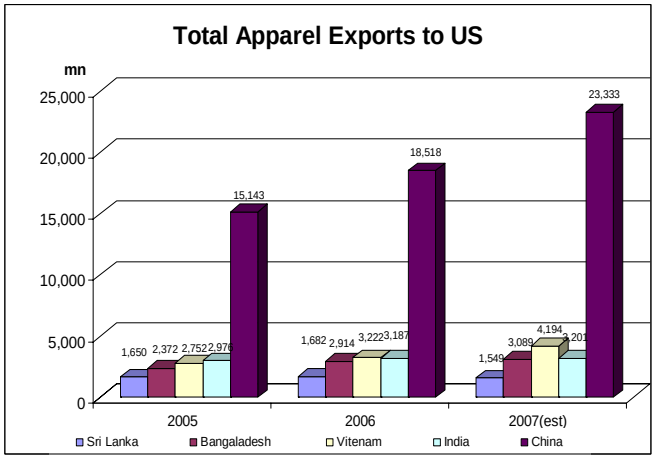


Figure 2: Apparel Exports to EU

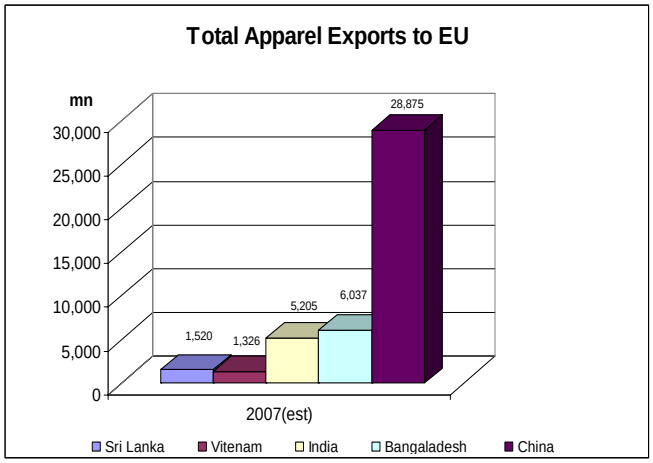
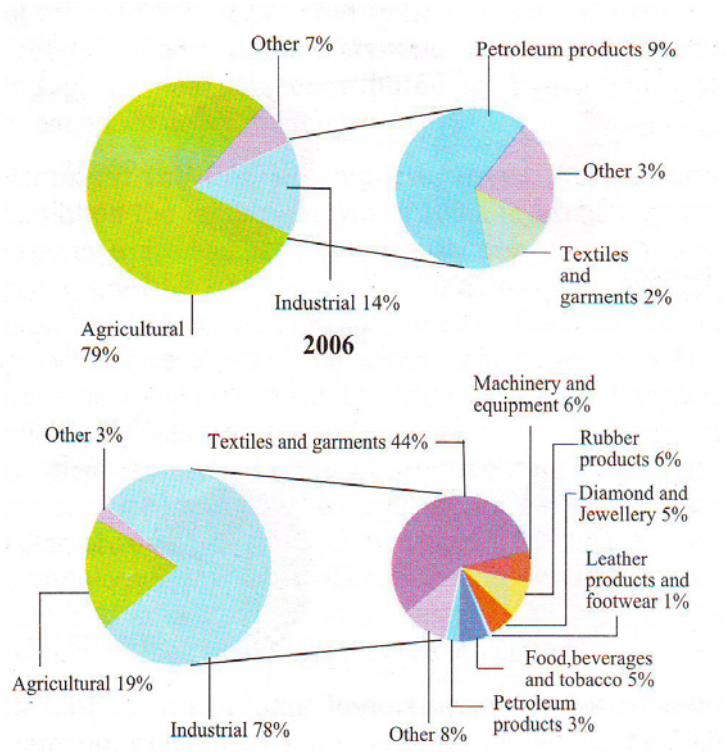


Figure 3: Production and Export Shares by major categories



Source: Central Bank, 2006 Annual Report, p. 81

Figure 3 illustrates Sri Lanka's production and the share of exports by major categories. Agricultural products constitute 79 percent whilst industrial products are 14 percent plus 7 percent of other manufacturing products. Industrial products are made out of Petroleum products, Apparel production and other products. Whilst these figures are for the manufacturing sector, the export figures are very different. Among the total exports the industrial products share is seventy eight percent whilst agriculture is 19 percent. Textiles and garments are the largest export sector within the industrial products. The share of exports of textiles and garments is 44 percent.

"Sri Lanka Apparel – Garments without guilt" aims on ethical manufacture and sustainable development assuring the industry's commitment to ethical working conditions, free of child labour, free of forced labour, free of discrimination and free of sweatshop practices.

The clothing industry claims that “children have no business in our business”. This is one of the principles governing the industry ethos. The others include providing a better quality of life to the clothing employees through rural poverty alleviation, women’s empowerment, and education and implementing environmental initiatives minimizing damage to the environment. Sri Lanka’s clothing industry has been in active operation since early 1970s and has been at the forefront of industrial excellence and social responsibility in Asia. The industry has been conforming and complying with the norms of ethical sourcing backed by strong legislation. The industry has a better understanding of its people both professionally and personally, therefore industry’s mission has progressed beyond the work place to the community to include pro people initiatives (The Apparel Digest, 2007 [there is no reference to this]). This has made, the “made in Sri Lanka” label synonymous with quality, reliability and social and environmental accountability. What is needed now to make the industry more competitive in order to sustain the market?

There is a steady demand for organic cotton and fair trading clothing and the Sri Lankan clothing industry has also been able to produce such clothing. There are some clothing factories that adopt lean manufacturing methods as well. Such factories stay ahead of others due to effective way of manufacturing clothing. In Sri Lanka one would see green manufacturing plants spreading across the industry. Corporate Social Responsibility (CSR) has become a buzz word/phrase in the clothing industry and most of the factories carryout it in connection with the buyers’ assistance so that both parties are responsible for a good job done.

iii. Strategic Plan for the Clothing Industry

The plan has been put together by industry personnel and all efforts being taken to implement it to the best of ability. The clothing industry expected to face severe competition with the removal of quotas. However, the existence of the quota system benefited some developing countries like Sri Lanka and Bangladesh by guaranteeing an export market despite severe competition from more efficient producers.

The removal of quotas has caused buyers to procure their requirements from the most efficient producers posing a threat to those manufacturers competing solely on price. This situation will bring an opportunity to those who have been competing on quality, supplying clothing to the higher end of the market to enhance their export volumes. Further, with the loss of the protection hitherto provided by the MFA, the inefficient producers will lose market

share to their more efficient manufacturers, thereby leading to an inevitable consolidation of the world's clothing industries. The same is envisaged to occur at a micro level in Sri Lanka. The underlying objective of this strategy plan is to present a five year plan to consolidate and strengthen Sri Lanka's clothing industry, and to ensure its success in the post MFA era.

iv. Challenges Faced by the Sri Lankan Clothing Industry

a. Geographical Diversification

Strengths, weakness, opportunities and threats (SWOT) analysis had been carried out to know the industry challenges. From this necessary strategies and action plans for implementation were proposed. The main markets for the industry are USA and EU. This brings about a heavy dependency in terms of business risk. Therefore, industry must be looking at diversifying into new markets to increase exports volumes while reducing its present dependence on two geographical regions.

b. Development of Preferential Trade Agreements

Some of the trade blocks and regional preferential trade agreements are additional threat to the Sri Lankan industry; therefore they must be adequately addressed by effective lobbying to obtain an equal status.

c. Price Competitiveness

Price continues to be an important matter in the global clothing industry. Sri Lankan industry is not very competitive in price due to poor labour productivity and lack of technological advancement. Labour productivity in cost competitive countries is very much higher than Sri Lanka. Sri Lanka's factory efficiency is hovering around thirty five percent to forty five percent.

d. Faster Lead Times

Those countries that are at close proximity to US and EU markets have a lead time of maximum of 60 days whilst Sri Lanka takes at least 90 days and some times it would take as many as 120 days. The main cause is raw material has to be brought from foreign countries. This takes time, some times 25 to 30 days sailing time

e. Stronger Raw Materials Base

The clothing industry imports little more than forty percent of its raw material. This raw material includes fabric and accessories. To overcome this situation it is good to have an apparel city in a large area. These areas will have all the suppliers let that be fabrics to accessories to carton manufacturers and water treatment to fabric printing to embroidery and what not.

f. Focused Branding

The growth of the industry needs to be coupled with effective branding. The industry must be consistently and aggressively branded to promote its relative strengths.

g. Human Resource Development

Developing marketing competencies is crucial in the pursuit of new markets. Further product development is also necessary. Differentiate Through a “Full Service” Offering.

Most global players would produce basic customer expectations. Sri Lanka must differentiate herself from the others. We must offer enhanced services such as total service includes of having the raw material base, excellent product development, efficient manufacturing capability, logistical efficiency and provide the buyer with assistance in the way of marketing, design etc. provide a total package to buyers.

v. Strategic Objectives

There are five major objectives of the strategic plan

1. Increase the turnover from US$2.7 bn in 2005 to US$5.0 bn by 2010.

   Taking into account the existing growth rate of eight percent (2000 to 2006) and considering the enthusiasm the turnover is expected to be brought to as high as $5.0 bn.

2. Transform the industry from a “manufacturer” to a provider of a “fully integrated service”

   Rapidly changing trends demand a full service package that would satisfy a customer’s product requirement and would serve to delight the customer. Customers would prefer to have total package consisting market information, product concept, product design and development, high quality manufacture, shorter delivery schedules and good after sales service.

3. Increase market penetration to the premium market segments of the global clothing industry.

   Hitherto Sri Lanka’s clothing exports focussed on lower end of the market and meeting the basic needs such as price, quality and delivery deadlines. The industry must endeavour to move up in the value chain still keeping price strategy intact.

4. Become internationally famous as a superior manufacturer of specific product categories.

   Rationalize country’s resources and focus on specific categories such as, active and sports wear, casual wear, children’s wear and intimates.

5 Consolidate and strengthen the industry to meet the challenges of the quota free era. The industry which had a protection will now require consolidation.

6. Training Industry

i. Training in the Clothing Industry

According to the TVEC survey in 2006, the percentage of factories that train the workforce in clothing industry is between ten to twenty percent. Sewing machine training is carried out in factories and training is done either by instructors or senior operators. A few factories do train their supervisors, middle level cadres and senior level managers. The obvious belief is that the government should provide skilled manpower but the government insist that they are the facilitator, coordinator and the standard setter. The government provides policy and guidelines

for training and industrial sector must train their cadres. Towards this concept the government has offered some incentives to encourage the industries to start their own training.

The main training providers to the clothing industry are the Clothing Industry Training Institute (CITI), Textile Training and Services Centre (TT&SC), the Brandix College of Clothing Technology (BCCT), MAS Institute of Management and Technology (MIMT), Garment Industry Management Institute (GIMI), Department of Clothing and Textile Technology of the University of Moratuwa, The Department of Textile and Apparel Technology of the Open University of Sri Lanka, Vocational Training Authority (VTA), National Youth Services Council and JASTECA Institute of Management, National Apprentice Institute of Training Authority (NAITA), Lanka Institute of Fashion Technology (LIFT), Academy of Design and FERLA. There are several other small scale training centres providing sewing machine training. The two Universities and Brandix College of Clothing Technology (BCCT) are offering courses leading to degrees. The other institutions offer one to two years Diploma courses and short courses. The clothing industry has identified the need to establish a national education and training policy for clothing and textiles covering vocational, technical and tertiary education aspects and strengthen the training facilities available within the country as a key initiative for the future well being of the industry. Accordingly, it is being proposed to set up an independent college of textiles for this purpose. This college will coordinate the training conducted by CITI, TT&SC, NAITA, VTA and the Universities.

There are at least five different major type Job categories in the clothing industry. They are Operator, Supervisory, Technical, Middle Management and senior management. The projected training requirement for sewing machine operators is 26,000 and managerial is 2600 persons for 2007 (TVEC, 2006). Table 9 illustrates the projected training requirement job wise for 2007 to 2010. The most important job category is the sewing machine operator. The next category in demand is quality checkers. Table 10 demonstrate the requirement of managerial and supervisory cadres for 2007 to 2010. Here again, the requirement for training is on the rise. There is a dire need to train supervisors for the clothing industry.

Table 9: Projected Training Requirement Job wise

Occupation	2007	2008	2009	2010
Production-Technical	9147	92	94	137
Instructor	(78)	49	50	73
Cutters	409	1250	1294	1474
Sewing Operators	26000	71,316	73803	84,063
CAD operators	(60)	38	(38)	56
Quality Checkers	2958	9045	9361	10,882
AQL checkers	(257)	161	165	(239)
Fabric Inspectors	(165)	104	106	154
Total	26,687	82,055	84911	86858

Source: TVEC 2006, Vocational Education and Training [VET] plan, p.43

Table: 10: Projected Training Requirement (TVEC 2006)

Category	2007	2008	2009	2010
Senior Managers	(589)	307	378	548
Middle Managers	(885)	556	568	824
Supervisors	(1204)	1783	1834	2385
Total	(2678)	2646	2780	3757

Source: TVEC, 2006, p. 43

ii. Training

If one has poorly trained trainers, the outcome would be weak skill students. The first and foremost matter is to have skilled and qualified trainers to train the students. If the answer is no, it is pointless investing on training because it is not possible to get monies worth. Similarly, if one does not have the right kind of students to match the training course, it will not give the desired results. So, one should have competent trainers, right kind of course to match the demand of the training needs and also the right kind of students to match the demands of the course.

If the production manager does not understand you, if the sample room manager has failed to get the patterns done correctly and if the management cannot get the work organised, you have no chance of getting what you have asked for when you want it.

The worker skills are highly priced in the Western countries, a simple reality that still escapes many bosses of Asian clothing factories. Chinese silk fabric finished in China with sophisticated European machinery still not so good when compared with Chinese silk fabric finished in Germany (Birnbaum, 2000). Birnbaum said that, “the look and fit” of a moderately-priced European garment is special. Asian sewers take the Fashion out of a garment. Europeans put the fashion back in. To a Chinese sewer, a dress or a jacket is just a product. The sewer follows the instructions and specifications, ensures that seam allowances and machine tension are correct, and sews the garment without any regard to what they are making. To European worker, the garment is something to wear. In Europe, the sewer will have an opinion about the style and will understand what the designer wants. The result is not only better fashion; it generally ensures that mistakes in a European factory will not end in complete disaster.

What Birnbaum says is that there is a relationship between the designer and the sewer. The sewer is the wearer as well. It means that one cannot be very successful in making garments if one does not have a wider knowledge about that product let that be manufacturing or wearing. The demanding knowledge is very broad based. This brings to the point that, are there trainers or any others who have such broad base knowledge let alone the sewers? It is not only experience in the industry or teaching but it is also the practical approach to the product in broad sense. It is difficult to find trainers with such broad base knowledge and skill but the fact is that trainers should have practical skill in what they are imparting.

Whilst being said by Birnbaum that the trainers are the key partners in a successful clothing industry, one should analyse the training needs to upgrade the industry.

A study carried out by the author in 1986 recorded that the on standard performance of Sri Lankan sewers is ranging between 0.40 and 0.60. These have been calculated at 100 British Standards Institution (BSI) rating. Normally, the on standard performance should be not less than 0.85. Also we have seen a huge difference between on standard performance and overall performance of individual sewers. This reveals that there is considerable loss time prevails in our industry. This is management inefficiency. As such, the two important training needs are to improve the skills of operators and implement good management practices. Providing

training to these two major factors, the overall efficiency of the company will be improved. Of course, there can have many other training needs in the clothing industry.

Training and education are not the same, hence it needs to understand the difference between the two. Training is imparting skills and knowledge to carryout a job at on standard performance. Education need not measures one's performance but it provides knowledge to understand the job. So, training is as a means to improve the productivity. Since, training has two components, imparting skills and providing practical knowledge. Imparting of skills is normally carried out at Enterprise Based Training (EBT) centres whilst the other is carried out at training centres where it is called institutional training. There is a distinct difference between institutional training and enterprise-based training. If one needs to broaden his knowledge and not necessarily getting practical skills (sometimes they do get practical skills) he can follow a training course at an institution training centre and this is called institutional training. This knowledge one acquires is not always what the factory wanted and mostly to suit the aspirations of the individual who wish to broaden his horizon. On the other hand, the enterprise-based training is more focused to meet the training needs of the establishment. It is not the individual's requirements.

In the case of institutional training there are two components, Industry Oriented Training (IOT) and Industry Based Training (IBT). IOT is for those already employed and who wish to widen their knowledge and skills. IBT is for new entrants to the clothing industry, which lead to employment. However, IBT takes more of a theoretical accent and IOT is more practical approach in disseminating knowledge and helps to upgrade skills. However, all these training courses are developed to meet the demand of the industry.

Following are some of the best practices for institutional training

1. Institutional training should upgrade the knowledge and skills of the employee and thereby he/she should be able to move up in their chosen career path.
2. Those who follow industry based training in institutions should be able to secure employment after successful completion of training.
3. Selection of students to courses must be carefully carried out. Student's personality and ability must match the demands of the course.
4. The course design and course content (syllabus) should be developed and re-developed in close, regular and on-going consultation with the clothing industry.

5. The training staff should be well qualified and should posses industry experience relevant to the teaching field. The Trainer should have the ability to impart his skills and knowledge to students.
6. The institute should draw visiting staff that are qualified and trained from the industry to train. This brings the opportunity to students to interact with the industry personnel, which in turn helps to understand operational and behavioural patterns of the industry.
7. Teaching methods must be interactive and participatory.
8. The learning atmosphere must be free from distraction and it should have a pleasant environment to learning.
9. Training staff should continuously interact with the industry to keep abreast with industry happenings.
10. The students must be trained in the same equipment and machinery that are currently used in the industry.
11. A good library with adequate number of textbooks, manuals and periodicals are necessary.
12. The training institution must keep a close link with the industry in order to benefit both parties. The institution must encourage the students to carryout projects in the industry to understand industry problems.
13. The training institution should evaluate the "training delivery" of Trainers in order to maintain a good quality assurance.
14. Tracer studies must be carried out to ascertain the overall effectiveness of training to the industry.
15. Maintain good discipline within the institution, which will help students to be successful Managers of the future.

Another matter of concern is communication. This is not just educating your workers how to address their fellow workers but also how to instruct to carryout work. Poor instructions have caused many delays and confusion in production lines. For example, a young merchandiser not only he should have a good knowledge about the subject matter but also be able to understand what the buyer is saying. More often, those in industry have noticed that buyers do not explain in detail but you are supposed to understand what he is asking for. The buyer might say drop the armhole by one inch, I can't raise my arm. So, dropping the armhole will make the matter worst instead you raise the armhole. Students must be encouraged to query such instructions. Therefore, training institutions must cover a large spectrum of subject matter where student can operate with minimum of supervision (Birnbaum, 2000).

The Enterprise-Based Training (EBT) is to enhance employees' skills. The management must recognise that employees are not tools but they are capital assets worthy of additional investment and that the return on investment is remarkable. Professional managers know very well that one of the best ways to keep the direct costs down is to increase the efficiency of employees. This is easily achieved by imparting skills to the employees.

Non-professional managers feel that they are training their workers for others or for social welfare. These Managers should realise that once a person is trained his value rises and he knows he is worth more. So, having trained that person, you need to keep him but also you need to increase his wages as well. If you don't, you will lose investment on him and a skilled worker. Just imagine in the USA, a trained pattern maker would earn US$4000.00. Therefore, training some one to be a professional in Sri Lanka is worth many times more than any conceivable savings from a semi skilled worker's salary. Therefore, third world countries have better advantage in training and making skilled professionals.

The characteristics and advantages of enterprise-based training are

1. They are non institutional but enterprise based. The training is either on or off-the job.
2. Most training is carried out on-the-job in the factory floor but sometimes off the job training, which is conducted in a classroom.
3. The EBT is customised and is for specific needs.
4. Courses are more cost effective and involve less time off work.
5. EBT centres allow the training budget to be rolled into the overall running costs of the factory.
6. Workers are more likely to be released for training by the Managers because the employees do not have to leave the factory to attend courses. Further, the training is not long duration.
7. The training is normally on flexible hours, and therefore a large number of workers can be trained. As a result, one can expect higher productivity.
8. Lack of skilled technicians and managers is the greatest hindrance to develop our industry. Facilities available for training and skilled trainers are the biggest problem towards this matter. This matter is not unique only to Sri Lanka but also to other countries in the region as well.

There are educated and trained persons in technical subjects who are employed in the clothing industry. Perhaps, these people with good technical skills are underemployed. So, there is a mismatch. Most do not realise of this fact. A training needs analysis of the industries must be carried out and necessary action needs to be taken to meet the demand of the clothing industry. Further, a training culture must be developed among the managers of the clothing industry, which will cause to build a reservoir of trained people. There has to be a concerted effort between the vocational training personnel and the Managers of the industry to build an effective training delivery. Only when these two parties get together, a result could be seen.

Employee training would be necessary to emphasize at this juncture. In early 1980s, the US Steel underwent massive rightsizing programme and resulted them investing more than US$ 1.00 billion which was used to modernize the plant with high technology. This change demanded new skills for employees. The US Steel found that an investment in physical resources often requires an investment in human resources.

The employee training and development that an organization pay attention to, varies from organization to organization. This variability needs explanation. Some organizations value training more than others. It is obvious that organizational constraints can limit the training regardless of how much the company values it. But do not forget that the success of the company fundamentally dependent upon the abilities of the employees at all levels.

There are constraints in a training environment. When preparing a training course it is important to determine the content. Anyway, due to organizational constraints, usable content tends to be less than the potential content. Organizational constraints can be attitude of Managers, difficulties in spending, restrictions on time, and lack of training facilities. The relationship between potential and usable training content can be expressed as, Usable Content = potential content/Constraints (Finch, 1989). This brings about a “balance in training”. It means there is a need to provide the proper level of training against organizational constraints. Too much training can be waste of resources but too little could damage an organization’s competitive position. Therefore, the training model must pay emphasis to this delicate balance. The training model that captures the reality of organizational constraints is what required and not just spending money on training courses. To improve the effectiveness of the training function, a systematic process is needed that provides a framework for evaluating training goals and techniques subject to organizational constraints. For most managers it is a tug of war between employee training and the associated costs. My experience is that most organizations do not exist for the sole purpose of

educating their employees. This dilemma once again focuses on the concepts of potential and usable content in the “Training content decision making equation”.

Another aspect of training is about individuals. The most successful people are always learning by their experiences. They constantly read, follow training courses, they listen to others and learn through both their ears and their eyes. Such people are curious and eager to inquire and would ask questions. Therefore, they continually expand their competence. The more they know, the more they realize they don’t know.

If one needs to be successful must seek new skills and competencies, new ways of thinking, dramatic transformations, and revolutions of thought and great leaps of understanding if you were to be successful. However, these changes and improvements must be based on basic principles. Principles are not invented by us or by society. They are part of the human condition, consciousness and conscience. The basic principles are fairness, equity, integrity, trust, honesty and justice. Most of these principles are fast deteriorating from our society. People trust those whose personality is founded upon correct principles. The values reflect the beliefs of our cultural background. From childhood one develops a value system that represents a combination of cultural influences, personal discoveries and family scripts (e.g., concern for people, acting with humility etc.). Values with correct principles, they are liberated from old perceptions or paradigms. One of the characteristics of true leaders is their humility, evident in their ability to take off their glasses and examine the lens objectively, analyzing how well their values, perceptions, beliefs and behaviours align with true principles. Where there are discrepancies (prejudice, ignorance, error) they make adjustments to realign with greater wisdom.

Training has broad boundaries. Training of employees has organizational constraints. Training of individuals is not just imparting skills alone but also educating them with good values and insisting them to adopt principles. Further, there is a training cycle which has to be properly implemented if we were to see long standing and effective results from training. We have a complex situation.

7. Productivity

Productivity means output per labour hour. This is in other words the ratio between output and input. Productivity to be increased in order to be competitive, output must be increased or reduce the input. The common method is to increase the output. This is easily done by

increasing the efficiency of the manufacturing line. Skills are necessary to enhance the efficiency. When skills are high the operator produces more in a given time. This in turn increases productivity. Therefore, training would increase skills thus increase productivity. At least to sustain the current productivity level, it is necessary to have strategic training method. In some instances continuous training would be required to keep pace with the productivity levels in order to keep the competitiveness.

It is now well accepted that increase in national welfare is due to increase in productivity of a country. The economic growth of a country is also due to productivity improvement. In other words, negative growth in the economy means poor productivity, hence country will stay poor. In this context, it is interesting to study decelerating growth of productivity to understand why countries remain poor. It seems that there are a number of factors that contribute to low productivity. Increase in oil prices in the world market is considered to be a major set back to production outfits. Low investment and this cause high inflation in the country, which also a contributing factor for low productivity. Over regulation and government intervention in the economy decrease the motivation of the entrepreneurs hence weakens the competition.

When there is economic growth there will be better living standards. To do this it is necessary to enhance productivity of that country and sustain it. Therefore, the present government of Sri Lanka has finalised a National Productivity Policy embracing all spheres of the economy and all sectors of the society to drive productivity. When such policy starts to operate in the country there must be increase in investment, increase in national savings, an economic growth in the country, better living standards, better social stability, improved labour management relations and better legal and regulatory mechanism for labour. A long term sustainable and improvement plan will be then, necessary to maintain productivity.

In this context, the government of Sri Lanka launched a productivity programme. This is funded by the government and managed by the private sector. The project has been headed by an expatriate and is supported by local staff that had good knowledge of productivity. The project was planned for three years and had an extension but now it has ceased its operation. Whilst this project covered most of the large and medium factories, the European Union's Asia investment programme for Sri Lanka launched a productivity improvement and cost reduction project for the SME apparel manufacturing sector. This project too has come to an end by 2007. Both these projects were satisfactory but still there is room for improvement.

Productivity improvement is continuous and as time passes by productivity also must move along.

Following is the examination of economic performance indicators, Sri Lanka versus world. Economic indicators such as GNP per capita, Average percentile rank of GNP per capita, Export growth in terms of value percent, Exports per capita and export share of market have been identified and information of these parameters about different nations are tabulated and presented from Tables 11 to 15.

Table 11: GNP per capita (1997)

Country	GNP per capita (USD)
USA	28,740
Hong Kong	24,540
UK	20,520
Australia	20,170
Sri Lanka	800

Sri Lanka's world Rank = 119
Number of countries = 176
Percentile Rank = 68

Average percentile rank (APR) of GNP per Capita.

Table 12: APR of per capita

Country	APR of per capita
B'desh	89th
India	80
Pakistan	76
Sri Lanka	68
Indonesia	61
Philippines	57
Mexico	33
Mauritius	32

Note: value of 1 is very good and as it increases your GNP per capita is less.

Table 13: Export Growth, Value % (1985 to 95)

Country	Value%
Vietnam	22.49
Thailand	20.75
Hong Kong	18.22
China	17.83
Malaysia	15.26
Sri Lanka	9.7

Table 14: Exports per capita (1998)

Country	Exports per capita
Hong Kong	$26,839
Netherlands	$12,198
UAE	$10,239
Canada	$ 7,102
Sri Lanka	$ 4,652

Note India, B'desh, and Pakistan are much less

Table15: Export Share of Market (APR)

Country	Export Share of Market (APR)
B'desh	39th
Sri Lanka	36
Pakistan	30
Vietnam	29
Philippines	18
India	16
Indonesia	14

One percent rank – high level of performance and ninety nine percent is low level of performance.
Source: World development indicators, World Bank, 1999

Sri Lanka is very low in the GNP per capita and it is in the 119th position of the world (Table 11). Of course, you will see Sri Lanka is better than some of its neighbouring countries by securing 68th position of world (Table 12). Sri Lanka's GNP per capita growth between 1985 and 95 is 2.7 percent whilst China has shown nine percent. Sri Lanka's export growth from 1985 to 1995 is 9.7 percent in value terms whilst Vietnam has performed 22.49 for same period (Table 13). Sri Lanka's export earnings per capita are US$4652 as against Canada US$7,101. Hong Kong is streaks ahead with US$26,839 (Table14). In terms of APR the exports per capita and share of the market (Table 15) is 66th and 36th position respectively. These indicators (Tables 11 to 15) do not show encouraging performance from Sri Lanka. An economic indicator such as GNP per capita is a good measure of productivity of a country. The national income should grow more than the input factors when productivity is enhanced. The report of the Singapore National Productivity Board in 1984 says, "that the labour productivity has been the major factor in the rise in standard of living of its people". This means their people are productive.

As productivity increases the cost of production comes down and the country can be competitive in the international market. Low productivity of an industry will cause higher cost of production hence lose sales as buyers turn to low cost but competitive suppliers. If the clothing business fails to keep pace with the productivity levels of our competitors in other countries we lose our business to them. In case Sri Lanka tries to solve this problem by devaluing our currency instead of improving the productivity, the country might have the business but it will lower the real income to the country. Also, it will make imported goods more expensive and this will cause high inflation in the country. The country will remain poor

although we produce goods for other countries. Thus, low productivity cause high inflation, poor balance of trade, poor economic growth and no creation of employment. This means human and capital resources must be used effectively. Application of modern technology and human resource development must go hand in hand. It is necessary to understand whether your employees are capable to absorb new technology before one installs them. This emphasizes the importance of human resource in the context of productivity.

The productivity is commonly defined as the relationship in terms of a ratio between the output and the input, which is used to create the output. Most companies measure single factor productivity, such as labour productivity. However, the output is normally influenced by number of factors, just not only labour. Therefore, multifactor productivity calculation can be useful. Multifactor productivity measures include, capital, energy, labour, materials, and services combined together as input.

Productivity improvement is not increasing production alone but it is doing the right things in better way. Productivity improvement can be influenced by two factors, External and Internal. The external factors are those that are beyond the control of the company and internal ones are within the control of a company. This chapter will not deal with the external factors but briefly discuss the internal factors. In this context, it is necessary as the first step to identify the problem areas or gaps within the internal process. Once we know the items that are causing low productivity, identify the ones that can be controllable. Provide solutions to those factors and make sure these will not cause problems to the process again. Breakdown the internal factors into two categories such as hard and soft factors and list their variables and carefully examine them to know how they operate. Hard factors are the product, plant and machinery, technology, and raw materials whilst soft factors are human resource, the organisation and management, and work methods. Just improving the soft factors alone may not bring productivity improvement. Every company will have to have improvements to both factors if they need to improve productivity. There has to have a balance between the two factors and efforts must be taken to sustain the improvement made.

8. Summary

This chapter has attempted to explain the function of the clothing industry of world over. The main function of the clothing business is the global trade. Further, the export and import statistics can also provide important information to understand the economics of the business.

Selected countries of the Asian region help to understand the competitiveness of the business and their contribution to the national economy.

There is also information about the Sri Lankan clothing industry. This information enables to have a comparison with other countries and to understand the position of the Sri Lankan industry in the global context.

This chapter has also attempted to explain the importance of effectiveness of training. If training is effective then productivity of the industry could be enhanced. Hence, cost of production could come down. This is the back drop of this research. This chapter has attempted to bring out key aspects of this concept and offer some understanding of these key elements. They are training, productivity and clothing industry. As regards training, it has explained the importance of training and as to how training is being done in the clothing industry of Sri Lanka.

There is an explanatory note on productivity. It is important to the industry and in turn to the country. There is a mention about the government productivity initiative and more particularly the project dedicated to the clothing industry. Sri Lankan export earnings per capita are much less than some of the developed countries.

9. Next Chapter

The next chapter will be on Sri Lanka's socio economic matters such as political, health, education and industry. This chapter will help to understand the economic indicators of Sri Lanka and its socio economic landscape.

Chapter 3

Socio Economic Landscape of a Developing Country in the Context of Politics, Health, Education, and Industry: Sri Lanka in Perspective

1. Introduction

This chapter is about political developments in a developing country from the pre-independence to the post-independence era. It explores both demographic features and social-economic factors such as health, education, and welfare schemes of Sri Lanka. Output growth, income and income distribution and employment are also discussed. Further, an assessment is made of the overall pattern of industry in the country, specifically the place of manufacturing and direct foreign investments. A few industry sectors, comprising rubber and ceramics, are discussed together with a review of the history of employee participative practices. The clothing industry is not discussed in this chapter because it is dealt with in chapter 2, section 5 because of its importance to this study.

Firstly, it may be necessary to understand the growth in important key performance indicators and social behaviours of a developing country in order to interpret the findings of the research. This research is basically on the effectiveness of training and it is much dependent on the socio economic landscape of the country. The findings of the research can differ according to the status of the country (i.e., developed, newly industrialized, and developing and least developed countries). In this context, this chapter provides an overview picture of the present status in terms of development.

2. Background

Sri Lanka's mid-year population, estimated at 19.9 million in 2006, grew by 1.1 percent over 2005 (CB 2006, Annual Report). With a population spread over a land area of 62,337 square kilometers, Sri Lanka is one of the smaller countries in South Asia (CB 2002, Annual Report).The population is multi-ethnic and multi-religious in composition, which has led to unique problems of national integration. Sri Lanka was subject to varying degrees of foreign influence for several centuries before gaining Independence from Britain in 1948. The British influence on the economy, society and political process was most evident in the pre-

Independence period. The British not only introduced and commenced production of new crops like coffee, tea and rubber but also introduced the plantation industry. Along with the development of export-oriented plantations, physical infrastructure facilities such as road and rail transport, the sea port in Colombo and other transport and communication facilities required to facilitate the export of domestic produce to foreign markets were developed (Lakshman, 1997). The development of physical infrastructure led to improvements in the social infrastructure. Developing formal educational facilities and health services took priority at the time of Independence.

However, prior to independence, the British governed the country as a single unit. British provided increasing representation to local interest groups within the legislature and as a result colonial administration built up the political institutions and electoral traditions. After the grant of universal adult suffrage in 1931, the State Council under the Donoughmore Constitution of 1931 was elected (ESDC, 1955).

3. Post Independence

i. Political Context

The country, then called Ceylon, changed its name to “Sri Lanka” in 1972. Sri Lanka has been a representative democracy since Independence in 1948. The people have changed the government nine times since 1948. During this period, the political scene has changed significantly. In 1972, Sri Lanka underwent constitutional change and became a republic with a President nominated by Parliament as the nominal head of state. The bicameral system was replaced by a unicameral legislature with the abolition of the Senate. The Cabinet of Ministers wielded executive authority. In 1978, the people elected an Executive President to head the government and a high degree of power was vested in the President. The main objective has been to provide greater political stability and to facilitate the decision-making process to implement economic reforms (Jayewardene, 2004). Some key features in this period are the introduction of a proportional representation system, the establishment of provincial councils and further devolution of power to the regional level. Sri Lanka experienced cohabitation between the elected President (Mrs. Chandrika Kumaranatunge 2000) and the elected Prime Minster (Mr. Ranil Wickremasinghe 2001) from two different political parties. Both parties follow similar economic policies and occupy the right of the political spectrum. At present, Sri Lanka faces two main challenges: firstly, nation building and economic development, and

secondly, ending a twenty-five-year war with Tamil separatist elements, with international support for the Tamils (Indraratne, 1998).

ii. Economic and Social Considerations

Past Sri Lankan political leaders set goals for human resource development, despite low per capita income levels at that time. This can be attributed to the strong and visionary social policies implemented from the 1940s. These included not only early investments in education and health, but also sound policies such as free education, free health care, an extensive outreach capacity for the civil administration involving a well defined delivery network of schools and hospitals, and good health service practices. Sri Lanka complemented these human resource development policies by placing special emphasis on protecting the minimum consumption levels of its entire population. Policy choices in other areas such as water and sanitation, female empowerment, social mobilization, and universal suffrage has had a positive impact on outcomes such as childcare, nutrition, fertility, and female education (Central Bank, 1998, Annual Report; BOI, 2001).

This situation has resulted in significant advances in terms of several social indicators, and even today continues to maintain an edge over other developing countries in basic health, education and social welfare. It has also successfully eliminated destitute poverty, and the coverage of basic health and education services is extensive with the population having free access to these services. The most vulnerable segments of the population are thus reasonably well protected, and socio-economic mobility and political participation are high (Rodrigo, 1994). The status of women is also generally higher than in other low-income countries. For example, the participation rate of women in the labour force has increased over the last two decades. Their activity rate, which stagnated around 18 percent until 1981, increased markedly during the decade to 25.4 percent in 1985 and rose to 31.1 percent in 1990.These increases have been accompanied by significant changes in the age pattern. In particular, higher age activity rates (45 to 49 ages) that existed in the 1946-53 period shifted to age levels of 20-29 during 1990-1995 (Lakshman, 1997; Central Bank, 1998, Annual Report).

iii. Demographic Indicators

Sri Lanka is one of the most densely populated countries in the world with 317 persons per square kilometer. The distribution of population is not uniform. It tends to be concentrated in the Western coastal areas and the urban areas of the Central and Northern Provinces. At the

first census conducted in 1871, Sri Lanka had a population of 2.4 million. At the 2001 census, the total population was 18.7 million with an average annual growth rate of 1.2 percent for the twenty-year period from 1981 to 2001. The Central Bank Report of 2006 registers 19.886 million people in Sri Lanka with a growth of 1.1 percent over 2005. The main ethnic groups comprise Sinhalese 82 percent, Tamils 4.3 percent, Moslems 7.9 percent, and Indian Tamils 5.1 percent. The Tamil population is mostly concentrated in the North and East while Indian Tamils are settled in the Central Province and are mainly engaged in the plantation sector (Dept. of Census & Statistics 2001).

The increasing inter-regional mobility, ageing population and changing gender ratio are some of the pronounced demographic developments that emerged from the last census. The gender ratio, defined as the number of males per 100 females, declined from 103.9 in 1981 to 97.9 in 2001. At present, nearly 27 percent of the population is children less than 14 years of age and 6.4 percent are over 64 years of age; the dependency ratio is at 49 percent. This means that a large proportion of the population is dependent on the age group of 15-64 (Central Bank 2006, Annual Report). Marital status has a significant implication for population structure and labour force characteristics (DCS, 2001). Economic, social and cultural factors affect marital status. 54.7 percent of males and 47.8 percent of females were unmarried. The average age at marriage is 26 years for females and 29 for males. Another factor that has an impact on the labour force is urban-rural migration. There is a growing trend of population growth in urban areas, increasing from 15 percent in 1946 to the current level of 22.4 percent. The development of Colombo as the capital, more infrastructure facilities such as transport and communications, improvements in education and setting up of Free Trade Zones are some of the factors that contributed to the migration of the rural population to urban areas (Karunathilake,1987; Central Bank 2001, Annual Report).

iv. Well Being (Health)

Health is wealth. In recent times, the health sector has shown remarkable improvement in both infrastructure and health care. The well being of its citizens is the responsibility of every Government. In this context, this country has established an excellent health record from the 1950s, and reached developed country standards in death rates, maternal mortality and female life expectancy by the late 1970s. Today, infant mortality and child mortality rates are 16 and 19 per 1000 live births respectively, and maternal mortality is 30 per 100,000 live births. The fertility rate is around replacement level and total life expectancy is 72 years (75 years for women).

However, a concern in Sri Lanka is about child malnutrition, iron deficiency, anaemia among pregnant women, and malaria. Looking ahead, Sri Lanka will have great difficulty preserving its historical performance given an aging population, emerging threats such as drug resistant tuberculosis and STD/AIDS, and other socio-health problems such as mental disorders and drug addiction. Despite historically low expenditures in the sector, health care in Sri Lanka remains relatively cheap and technically adequate. The hospitals and health services are well organized and scattered around the country (Silva, 1994). Still the Government continues to play a leading role in the country's healthcare system. In 2006, the total health budget increased by twenty nine percent to Rs. 58 billion, about two percent of the GDP. In 2007 the government increased the expenditure for health by five percent of the GDP (Table 17). There are 606 government hospitals and 61,835 beds in the country, which amounts to 3.1 beds per 1000 persons. There were 9648 qualified doctors in the government sector, a doctor for every 2061 persons and 20,549 qualified nurses, a nurse for every 968 person (CB 2006, Annual Report).

v. Education and Training

Education is vital for a country's growth. A good educational system will bring productivity gains and prosperity to everybody in the country. The development of the education system to explore new frontiers of knowledge and match it with the dynamic needs of the labour market is vital to achieve sustainable high economic growth and development. Successive governments have implemented methods to provide education to all citizens in the country and some of the efforts have proved useful and successful (Jayawardene, 2004). Education is mandatory for all children and is offered free of charge up to GCE (A/L) in Sri Lanka.

Training is the imparting of skills. Training is also important to develop the economy. The government has established fully-fledged training schools across the country. Technical education is a function of the Ministry of Vocational Training, a dedicated institution for the entire training industry. There are technical training institutions in every province in the country. In addition to these training institutions, there is training institutions established by individual line ministries as well. There are two dedicated training institutes for textiles and clothing under the Ministry of Textile Industries that came into being in 1984. These two institutions offer training to all levels of employees in the industry as well as to school leavers.

Sri Lanka's early success in providing equal access to basic education through wide coverage and free delivery can be attributed to a strong and proactive role by the State from the 1940s

and large initial investments in the sector. The country's good education performance has had a positive impact on health and population, poverty reduction, socio-economic mobility, female empowerment, and political participation. However, despite the successes of the past, the education sector faces many problems that include unsatisfied demand for university education, low quality and irrelevance of education to the labour market and social needs, insufficient financing, and poor management practices (including large numbers of untrained teachers). Several of these issues are currently being addressed under various projects such as “Tharuna Aruna”, a graduate development programme, and the expansion of the university network. These programmes along with key educational reforms gathered momentum in 1997 and resulted in an unemployment rate of 10.3 percent, a significant reduction of the rate which had stood at sixteen percent in the early 1990s (Central Bank, 1998 Annual Report). There are significant gaps in higher education between demand and supply and in quality. The capacity in the government higher educational institutes such as Universities is acutely limited. In 2006, a total of 118,770 students were eligible for admission but only 16,622 (14 percent) could be accommodated in Universities (Department of Census and Statistics, 2000). Increasing numbers of unemployed graduates seeking employment in the government sector indicates mismatches between teaching programmes and labour market requirements.

The government budget for health and education is not as high as in any other developed country. The expenditure for both sectors is very similar (see Table 17). Budgetary allocations (Table 17) are also not very significant.

The estimated adult literacy rate in Sri Lanka is ninety percent. Moreover, participation rates in primary education are 90 percent, in lower secondary 86 percent, and upper secondary 38 percent. In addition, there are no stark gender disparities in Sri Lanka's education outcomes (e.g., women account for approximately 50 percent of enrolments, even in universities, and the dropout rate for girls in secondary education is lower than for boys). The efforts in the area of female education have had tremendous results in areas such as health and population (Jayaweera, 1998).

Outcomes of this nature are a result of a combination of factors. Firstly, the government's visionary policies as early as the 1930s and 1940s, including free education together with subsidies to encourage student participation; secondly, large initial investments in education infrastructure and an extensive delivery network; and thirdly, strong commitment to the broader aspects of human development at a very early stage (e.g., promotion of female education, population control, poverty reduction and community participation). The

government demonstrated a proactive role at the initial stage of education development, which was another reason for these outcomes (Lakshman, 1997).

The imparting of knowledge and financing of education services in Sri Lanka have been dominated by the public sector since the early1950s. This phenomenon was not unique to Sri Lanka at the time, and was perhaps the driving force behind the country's early educational achievements. What is unusual however is that public sector representation in Sri Lanka's education system continues to remain strong, while barriers to private sector entry are high, even at the tertiary level. The regulatory framework, although changing moderately over time, has ensured that State control of all levels of education has remained entrenched (Lakshman, 1997).

In spite of the expansion of education over the years, opportunities and adequate facilities for tertiary education have not expanded in keeping with the increasing demand. It is estimated that around 550,000 students sit for the G. C. E. (O Level) examination (after Grade 11) and nearly 50 percent of them qualify for higher education. Every year around 170,000 students sit for the university entrance examination (G. C. E. Advanced Level, after Grade 13) and 50,000 to 60,000 qualify to enter university. However, only about 15,000 to18, 000 gain admission to a course in any of the 15 universities in the island. This shows a heavy sorting out at both G. C. E. ‘O’ level and G. C. E. ‘A’ level. The expectations of these young people are high and they seek to enter the job market at different levels and form the bulk of unemployed youth. They are also a recognized workforce for the industry (Department of Census & Statistics [DCS] 2000).

Unsuccessful university entrants are encouraged to study at technical schools located in the nine provinces. These students are eligible to follow a course leading to a National Vocational Qualification (NVQ) from these technical schools. A large spectrum of technical subjects is available to choose from and most schools are well equipped to deliver the training.

The students with the NVQ certificate can now study to obtain a University degree. A new University has been formed for this purpose. The Bill for this University was passed in Parliament on 20th June 2008. This university is called “the University of Vocational Technology” (Univotech). The entry to this University is through the NVQ certificate. This is the first time in Sri Lanka that a University to equip students with technical knowledge was set up. It provides a new opportunity in the history of education in Sri Lanka.

There are several private and public organizations providing professional and vocational education and training. In respect of Technical and Vocational Education and Training (TVET), public institutions, such as the Department of Technical Education and Training, Vocational Training Authority of Sri Lanka, National Apprentice Industrial Training Authority (NAITA) and the National Institute of Technical Education (NITE) function under the Tertiary and Vocational Education Commission and the Ministry of Vocational Training and Technical Training. These institutions together provided training to around 61,112 individuals in 2006. There are a large number of private training organizations as well.

Table 17: Government Expenditure on Health and Education (per cent of GDP)

Field	2002	2003	2004	2005	2006	2007
Education	2.4	2.3	2.0	2.8	3.0	2.6
Health	1.6	1.5	1.8	2.0	1.9	2.0

Source: CB 2007, Annual Report, p.65

vi. Low- Income (Poverty)

Since the 1950s, the government's interest in low income people was focused basically on human resource development and ensuring a minimum level of consumption to the entire population. The main instrument of the strategy was universal free education and health services, supplemented by a range of income transfer programmes directed at food security (e.g., universal rice ration/subsidy), youth employment and rural development. In 1977, this strategy has expanded to include market economy reforms and the implementation of a safety net programme.

The post-1977 era saw the introduction of several large poverty-related programmes. These included food and kerosene stamps, the IRDP, Janasaviya, the NDTF, Samurdhi, and the universal wheat subsidy. In addition to these large programmes, a host of minor programmes has been implemented to address the needs of specific groups of the population (e.g., schoolchildren, lactating mothers, and displaced persons). Key features of most of these programmes are that they have been substantively modified or phased out over the years for fiscal or political reasons. Despite the modifications, however, spending on poverty and social welfare programmes has remained consistently at around two to three percent of GDP in more recent years (Central Bank 1998, Annual Report).

The primary poverty alleviation programme of the United National Party government (1977 to 1994) has been the Janasaviya Programme (JSP) which came into being in 1989.The original purpose of this programme was to provide income transfers to half the population for two years, but because of its heavy budgetary cost, it was trimmed. Monthly grants of Rs. 2,500 were given to households in the form of cash and mandatory savings to be transformed into a fund for investment purposes by the beneficiaries. In Sri Lanka's poverty alleviation process, social immobilizers/animators are external facilitators who help mobilize the poor through community participation to address socio-economic issues and identify beneficiaries. In 1991, the local poverty line, estimated at Rs. 471 per person per month, was based on a daily nutritional threshold of 2,500 calories. This local poverty line was considered more reliable than the international poverty line of US$1 a day (World Bank, 1995).

In 1995 this “Janasaviya Programme” had to be discontinued by the then government. It was replaced by the Samurdhi programme, which has now become the government's major vehicle for poverty reduction. It presently combines the functions of both the previous JSP and the NDTF, which was disbanded in January 1998. Samurdhi covers over 50 percent of the population, or 1.8 million families, and has two main components: the first provides direct income support in the form of food coupons, and the second aims to promote self-reliance and rural entrepreneurship through training, credit, and savings schemes, just as in the previous JSP. In 1997, Samurdhi cost the government Rs. 9 billion (US$9.3 million), representing one percent of GDP. This large cost was due primarily to its extensive nature (UNDP 1998) and the fact that it has absorbed several other income support programmes over the years (e.g., the school mid-day meal program, kerosene and food stamps). The Samurdhi programme was further strengthened in 2006. The Samurdhi Authority of Sri Lanka (SASL) launched various income generation programmes, community development programmes as well as capacity building programmes during 2006 to support the Samurdhi beneficiaries to escape poverty and low standards of living. 97,068 loans were issued amounting to Rs.1, 369 million to finance small-scale enterprises. There were programmes to improve the village infrastructure and agricultural programmes to increase the income of beneficiaries during 2006. The cash grant to Samurdhi beneficiaries was increased by 50 percent in 2006.

4. Output, Income and Income Distribution

i. GDP Growth

The economy of Sri Lanka has undergone considerable structural transformation since Independence, particularly during the last two decades. In 1977, Sri Lanka adopted an open economic policy and since then has progressively moved towards an outward looking development strategy. Some of the main features are the reduction of tariff barriers with the maximum tariff restricted to thirty five percent, introduction of Free Trade Zones, liberalization of exchange controls and privatization of state-owned establishments. This environment has facilitated economic growth, with the country averaging a five percent growth in 1989–1999. There was a decline in 2000 and 2001 due to the downturn of the global economy and the terrorist attack on the International Airport in 2001. Economic growth resulted in an increase of per capita income, which is higher than in other South East Asian countries such as in India, Pakistan, Nepal, the Maldives and Bangladesh. In 2000, Sri Lanka recorded a per capita income of US$899 (Table 18) which declined in 2001 to US$837.00. GDP fell in 2001 from a projected 4.5 percent growth rate to a negative percentage, caused by global recession and prolonged drought which had an adverse impact on agricultural output and hydropower generation. This was further aggravated by the terrorist bomb attack on the only International Airport, resulting in a surcharge on insurance premium and creating a drop in tourist arrivals, exports and aviation services (Board of Investment, 2001, Central Bank, 2001 Annual Report). Sri Lanka managed an economic expansion in 2006 amounting to a 7.4 percent growth rate (Table 18). However, in 2007, the Sri Lankan economy recorded a growth of well above 6.0 percent for the third consecutive year which is for the first time since independence, demonstrating that Sri Lanka has now moved on to a higher growth path of above six percent per annum from the historical average of around four to five percent. The economy grew by 6.8 percent, the annual average rate of unemployment reached its lowest ever recorded level 6.0 percent while the per capita income rose further to US$1617 in 2007 (CB 2007, Annual Report, p. 1). Since 2004, there has been a steady growth in GDP per capita (Table 18).

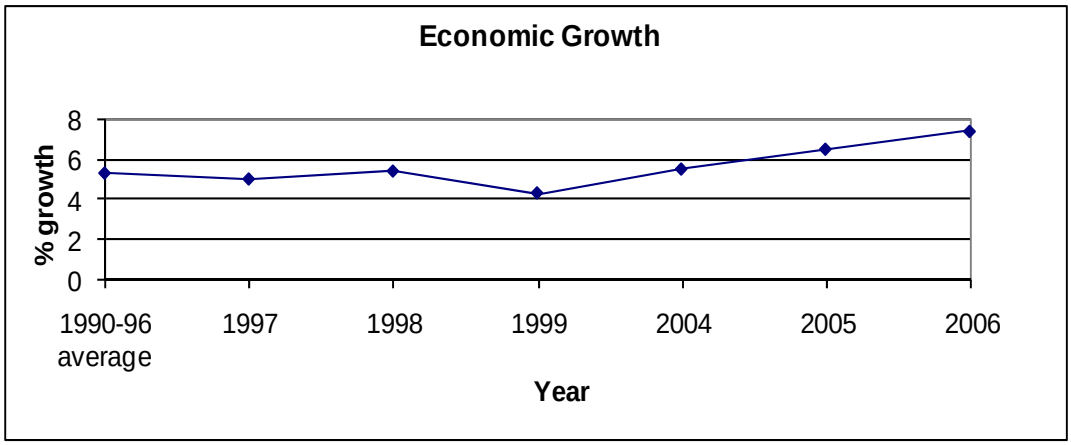
Table 18: Per Capita Income of Sri Lanka

Category /Year	1990-96 average	2000	2002	2003	2004	2005	2006
GDP per capita US $	579	899	870	948	1,050	1,197	1,355

Source: CB of Sri Lanka 2006, Annual Report

The slow-down in both economic growth and foreign direct investment in 2001 reduced employment creation and raised the unemployment rate to 7.8 percent and inflation to 11 percent. This also had an adverse direct impact on prices and the cost of living. However, in 2002, the Sri Lankan economy had recovered from the setback experienced in 2001, benefiting from improved domestic conditions, mainly resulting from the peace process, strong fiscal consolidation efforts, monetary policy and a more favourable international environment (Jayawardene, 2004).The economic growth recorded a growth rate of four percent compared to the 1.5 percent negative growth of 2001 (Central Bank, 2002 Annual Report). During the period of 2001 to 2006 there was a gradual improvement in the economy (Figure 4). A drop was noticed in 1999 but thereafter a gradual growth of the economy took place (Figure 4). In 2006, the country received the highest ever Foreign Direct Investment (FDI) inflows, surpassing the previous highest level recorded in 1997. This resulted from a substantial increase in reinvestment of retained earnings by the existing BOI companies.

Figure 4: Economic Growth 1996-2006



Source: CB of Sri Lanka 2006, Annual Report

Despite these favourable developments, emerging inflationary threats posed a serious challenge for policy makers. The most important feature of the financial sector was its expansion while remaining resilient to withstand challenges. The economic expansion was commendable as it was achieved amidst several major obstacles in more recent years. Those were high international oil prices, escalation of terrorist activity, natural disasters such as floods and landslides, the need to accelerate the post tsunami reconstruction and intense export competition. Continuous efforts are needed to sustain high growth in excess of eight percent in the medium term. To achieve this, a ten-year vision has been prepared through an intensive consultative process involving all stakeholders of the economy in line with the government's overall policy vision. The policy vision has been designed to integrate the positive attributes of market based economic policies with domestic aspirations by providing the necessary support to domestic companies and encouraging foreign investments (CB 2006, Annual Report).

Sri Lanka's achievements in the area of Human Development Index (HDI) have been far superior to many of the South Asian neighbours and comparable with those of economically developed countries. The HDI is based on life expectancy at birth, educational attainment and per capita GDP. Sri Lanka's HDI was lower than only that of Japan and Singapore in 1960, but Malaysia, South Korea and Thailand exceeded the Sri Lanka HDI (0.71) by 1994.

ii. Income

Sri Lanka has three distinct economic sectors: urban, rural and estate. The first two are common to almost all developing countries, while the third consists of large plantations of tea, rubber, and coconut. Estate workers are predominantly Indian Tamils. They were brought to Sri Lanka by the British in the late 19th century to work on the estates. Of the population, about 22 percent live in urban areas, seventy two percent in rural areas and 6 percent in estate areas. In 1996/97, the urban sector was the most affluent and recorded a monthly income of US$48 and the rural sector an income of US$26, while the plantation sector which employs Tamils of Indian origin[1] recorded US$16 per month (DCS 2001). The rural sector improved its income by nearly three-fold when compared to 1986, where the income recorded was US$9.6 per month (UNDP, 1998). This was due to the emerging diversity of economic activities in the rural sector, which led to an expansion of income generation activities. These were brought about by better infrastructure development, accelerated development projects

[1] The plantation sector employs Tamils of Indian origin, brought to Sri Lanka by the English before independence to work in the tea plantations. They have now received Sri Lankan citizenship

launched in the 1980s and the expansion of the banking sector. Still, 40 percent of the population live below the poverty line and are the main beneficiaries of state welfare (CB 1999, Annual Report).

The government introduced a new salary structure for the public sector by re-categorising all posts/services based on a new set of definitions under the budget proposals of 2006. Thus, all government employees initially received a 50 percent of the salary increase based on the difference between the new salary scales and the salaries paid in December 2005 inclusive of all allowances with effect from 1st January 2006. The balance was paid in January 2007.

The average wages earned in the public and private sector differs. Public sector employees are exempted from tax on their earnings while private sector employees are subjected to pay as you earn tax (PAYE), with up to US$2500 a year exempted from tax. The average earnings of a worker in industry were US$73 per month in 2005 while clerical and related workers received about US$62 per month. Administrative and managerial workers mostly in middle management levels earned about US$180 per month (DCS 2001). While the government has enforced a minimum wage limit in the private sector, most companies pay above the minimum wage limit and have their own incentive schemes and gain-sharing initiatives (Chandratilleke, 1997).

iii. Income Distribution

Labour Force, Employment and Unemployment.

i. Labour Force

The labour force of Sri Lanka is dominated by males but there is a significant growth in female workers mainly due to the clothing industry. Perhaps, this situation might be different if the clothing industry shifts to another country.

Sri Lanka's labour force is considered to be the economically active population consisting of people who supply labour for productive activities during a reference period of seven days. The labour force, employment and unemployment in the country are estimated by the Quarterly Labour Force Surveys (QLFS) conducted by the Department of Census and Statistics (DCS). During the period 1946 to 1963 the rate of population growth was higher than the labour force growth, while after 1963 the labour force grew by 3.3 percent compared to a population growth of 2.2 percent. In the next decade, the labour force growth dropped to 2.5 percent per year mainly due to repatriation of Indian workers from the plantations and the

outward migration for employment to the Middle East. In 2002, the labour force reached 7.05 million with an increase of 4.7 percent over the 2001 figure of 6.73 million. The annual addition to the labour force is estimated at 230,000 persons. The DCS did not conduct QLFS in 2005 because of the absence of a sample frame in the tsunami-affected areas. However, a Special Labour Force Survey (SLFS) was conducted in August 2005 covering the whole country. The QLFS survey was conducted in 2006, but the Northern and Eastern areas were not covered due to the war in those areas. As such, data was adjusted for 2005 and 2006 to most close approximates (Table 19). Accordingly, the labour force increased by 3.9 percent from 7.3 million in August 2005 to 7.6 million in 2006, which comprised 7.1 million employed and 0.5 million unemployed people. The labour force participation (the ratio of the labour force to the household population aged 10 years and above) of males in 2002 was 67.8 percent while for females it was 32 percent. A significant increase in female labour force participation in the age group of 25-34 years was evident in the last five years, the rate reaching 44.8 percent when compared to 27.6 percent in 1946. This is mainly attributed to the introduction of Free Trade Zones with their heavy emphasis on textiles and garments (Central Bank 2001, Annual Report). Anyway, labour force participation rate (LFPR) increased to 51.2 percent in 2006 from 49.3 percent in August 2005 (Table 19).

ii. Employment

According to the QLFS, the number of employed persons increased by 4.7 percent to 7.1 million in 2006 from 6.8 million in August 2005. The QLFS defines an employed person as one who worked for pay, profit or family gain (unpaid) for one hour or more during the week. Employees temporarily absent from work due to illness or any other reason are considered as employed.

Table 19: Comparison of Labour Force, Labour Force Participation and Employment

Year	Household popualation'000 persons	Labour force '000 persons	Employed persons '000	Unemployed persons '000	Labour force participation
2005	16,871	8,141	7,518	623	48.3 %
2006	14,834	7,599	7,105	493	51.2 %

Source: Department of Census and Statistics 2006,

Table 19 shows the increasing numbers in the labour force in the last two years and the reduction in unemployment. Employment creation for the growing labour force has been a major problem confronting successive governments in Sri Lanka since independence. Hence, the expansion of income generating activities to provide employment avenues was given priority by the government. In the industrial sector, employment was created in agriculture, mining and quarrying, manufacturing, construction and services.

Table 20: Employment by economic activity ('000 persons)

Year	Agriculture	Manufacturing	Construction	Services
2005	2059	1293	494	2941
2006	2287	1363	527	2928
2007	2202	1331	543	2966

Source: CB 2007, Annual Report, p. 89

The increase in employment was applicable to all three sectors, viz., agriculture, industry and services. The industry sector demonstrated the largest increase while certain measures taken by the government caused an increase in employment in the agricultural sector. However, the service sector recorded a negligible growth in employment by 0.4 percent in spite of showing a high GDP growth during the reference period. According to the QLFS, the share of employment of the private sector declined from 46.2 percent in August 2005 to 42.1 percent. The share of the public sector employment increased from13.2 percent in August 2005 to 13.4 percent in 2006 (CB 2006, Annual Report). In 2007 there has been a drop in annual employment in agriculture and manufacturing sectors (Table 20). However, this decline was mainly reflected in the first half of the year, recovering thereafter towards the third and fourth quarters of the year. The decreased employment in industrial sector by 0.8 percent was mainly due to the lower employment in the manufacturing sub sector by 2.3 percent, despite higher value addition in the sector reflecting significant productivity improvements (CB 2007, pp. 88-89).

iii. Unemployment

The unemployment rate is a good indicator of the wealth of the country. The low growth rate of employment opportunities in the face of a rapidly increasing labour force generated a high degree of unemployment at the beginning of 1970, which became acute thereafter. The

highest unemployment rate of 23 percent was recorded during 1973. With the liberalization of the economy, the unemployment rate declined sharply after 1977, and dropped to 14.8 percent in 1980.

Table 21: Comparison of Unemployment Rate by Age Group (percentage of Labour)

Period	Age 15-19	Age 20-29	Age 30-39	Age 40 & above	As % of All
2005	33.2 %	16.0%	3.5%	2.4%	7.2%
2006	23.1%	15.9 %	3.3 %	1.4 %	6.5%

Source: Department of Census and Statistics 2002, Northern and Eastern provinces excluded.

According to DCS, the annual unemployment rate dropped to 6.5 percent in 2006 from 7.2 percent recorded in August 2005 (Table 21). This is due to the healthy growth in all three sectors.

The major investment in public sector programmes such as the Accelerated Mahaweli Programme, Export Processing Zones and Urban and Housing Development Projects contributed to the reduction of the unemployment rate. The unemployment rate declined to 10.2 percent in 1997 and in 2003 stood at 7.8 percent. When analyzed by age, unemployment rates continued to be highest among the younger age groups (Table 21) and steadily declined with age. In particular, unemployment in the age groups 15 to 19 and 20 to 29 was a cause for serious concern (CB 2002, Annual Report). Further, the high unemployment rates among those with GCE (O/L) and GCE (A/L) and higher qualifications had declined to 9.9 percent and 11.6 percent from 10.6 percent and 12.2 percent, respectively during 2005 (Table 22).

Table 22: Unemployment Rate by Level of Education (Percentage of Labour Force)

Period	No schooling	Grade 4 below	Grade 5-9	G. C. E. 'O' Level	G. C. E. 'A' Level	As %of All
2005	3.0 %	1.8 %	6.1 %	10.6 %	12.2 %	7.2 %
2006	2.25	-	5.8 %	9.9 %	11.6 %	6.5 %

Source: Department of Census and Statistics 2005

Unemployment among educated youth with G. C. E. ‘O’ Level qualifications and above is high and the mismatch between the human resource needs of the private sector and the qualifications of the graduates produced by the universities is a matter of serious concern to the government.

5. North East Issue

No country can prosper in a state of internal conflict and Sri Lanka’s conflict has been in existence for the past 25 years, and has accounted for the country’s poor economic growth. Sri Lanka's social development has been inevitably affected by the conflict in the North and Eastern parts of the country. Its full impact is difficult to quantify, however, as there is little information available on conditions in the war torn regions. Nonetheless, the visible costs are already high in terms of large financial outlays on defence, domestic security, pensions to invalids, higher premium on international trade, forgone foreign investments and reduced tourist arrivals, etc. More importantly, the human costs are also high: over 55,000 deaths have been recorded since 1983, and 800,000 people internally displaced since 1987.

In addition, there are considerable disruptions to social welfare and economic activity due to the tight domestic security situation. Bomb blasts, roadblocks and security checks mean a continuous state of anxiety. As in most countries in conflict, Sri Lanka's social fabric is constantly under pressure due to factors such as conscription of young children and women into the guerrilla movement, increasing school dropout rates in war-torn regions, rising numbers of female headed households, and army deserters. A less obvious but significant impact of the conflict is the neglect by Government of administration and economic and social policy making (CB 2001). The declaration of a ceasefire between the LTTE and the government in 2002 and signing of a Memorandum of Understanding led to stronger economic growth and gave hopes of a settlement of a twenty- year- old war. However, this did not materialize according to plan. As it stands now, the war is continuing. This situation has put the cost of living up and thus savings and investments are at their lowest level.

6. Industry

Sri Lanka’s industrial policy shifted from the promotion of import substitution industries, including the expansion of public sector industries, in the pre-1977 period to the promotion of private sector led export oriented industries. The open economic policy introduced in 1977 led to a rapid expansion of private sector industries under a competitive economic environment.

This situation gave rise to the implementation of privatization programmes. The industrial policy after 1977 focused mainly on export oriented industrialization in an open economy to foster rapid economic growth. The post-1977 period saw the scaling down of state monopolies and the public sector competing with the private sector. A notable feature in this period could be described as the gradual reduction of tariff protection afforded to local industries and the liberalization of imports. The simplification of the tariff system, the exchange rate and relaxation of exchange controls led to a dynamic private sector. During the last decade, industrial sector activities benefited from the continuous improvement in basic industrial infrastructure such as telecommunications, expansion in electricity generation, port facilities and reductions in Customs delays in the country (CB 2001, Annual Report). Anyway, the government's economic think tank, the Central Bank (2001) revealed that the industrial sector was improving and its contribution to GDP would also increase.

The manufacturing sector employs twenty four percent of the labour force, while the services sector employs forty percent. The remainder is engaged in agriculture. The industry productivity growth averaged 2 percent in the decade 1990 to 2000. Sri Lanka featured in the 2001 to 2002 Global Competitiveness Report. The report, a collaborative effort between the World Economic Forum and the Centre for International Development (CID) at Harvard University, uses its own survey data as well as published national data to provide qualitative and quantitative indicators of a nation's competitiveness. In the 2001-2002 Report, Sri Lanka ranked 61 among 75 developed and developing economies in the overall growth competitiveness index. Some key indicators given were country level technological sophistication (rank 57), continuous innovation at firm level (rank 49), unions' contribution to productivity (rank 64), high willingness to delegate authority (rank 53), and high cooperation in labour–employee relations (rank 67). Against this gloomy backdrop, some Sri Lankan companies were struggling to find new ways of survival and expansion through modern management techniques that emphasize a teamwork approach to productivity and human resource development (GCR 2001 to 2002). Most companies tend to believe in Japanese techniques to improve productivity (e.g., 5 S techniques, Kaizan, etc.).

During 2006, the industrial sector which includes mining, quarrying, manufacturing, electricity and water and construction grew by 7.2 percent (8.3 percent in 2005). The industrial sector contributed 27 percent to GDP. The manufacturing sector, which is part of the industrial sector, contributed 16 percent to GDP while it was 16.3 percent in 2005. The major drivers in the export industry sector can be mentioned as textiles and clothing, rubber

gloves, tyres, processed diamonds, gems and jewellery, ceramic products, plastics and petroleum products. These industries benefited from rapid global economic growth and expansion in trading with regional countries under Free Trade Agreements (FTA). The domestic market oriented industries also showed an increase in growth due to increased disposable income following the upward revision of salaries. The open market policy of the government has also created competition with foreign products. In other words, the local establishments in the country have become competitive. While this is good in the context of consumers, it creates huge pressure for manufacturing companies if they lack technology and a skilled workforce.

i. Investment and Technology

Investment and Technology are also important aspects in the context of growth and prosperity of a nation. If there is economic growth and savings then there will be investment. You need to have investment to bring in technology. Therefore, investment and technology go hand in hand in a country.

As a result of the unstable security situation, many Sri Lankan companies have been denied the benefits associated with foreign investment. These investments tend to be accompanied by a technology spill over, the formation of supply chains of peripherally supporting industries and exclusive access to international markets provided by foreign investors and partners. Except for companies that depend upon local supplies for primary products such as tea, coconut, spice and rubber, manufacturing companies tend to depend on the import of technology, raw materials, machines and semi-finished products.

Sri Lanka has high interest rates in the range of twenty percent for commercial borrowings and these prohibitively high interest rates have contributed to low capital development. The failure to innovate and adopt more energy-efficient modern machinery has also been extremely costly for energy-intensive industries like the ceramics sector. Because of their high cost of procurement and installation, most automated, computer control systems are financed by foreign parent organizations.

A common phenomenon in Sri Lanka is that most local companies are quick to adopt a best practice approach to productivity and quality improvements. However, world-class manufacturing operations are limited to those companies with foreign collaboration and know-how. A few of the export business areas are in injection mould dye making, electronic

and electrical component manufacturing, mass production clothing industries, and tobacco. In these companies, employees are trained for periods of three months to one year to acquire skills and to develop their technical knowledge. Employees are keener to learn than employers wanting to train their staff.

Poor understanding of technology and lack of application of high technology have prevented a possible backward integration to the fast growing clothing industry. The spinning and weaving machinery required meeting high quality standards and use of high technology is prohibitive in terms of the current cost of capital in Sri Lanka and is also threatened by low tariffs, which lead to cheaper imports. In preparation for a possible decline in the mass production of apparel, after the Multi Fibre Arrangement comes into full effect by 2005 (abolishing of a quota system world wide), some companies in apparel manufacturing are moving into high fashion lines with computerized designing, cutting and sewing operations. Currently, domestic investment in research and development is low. As a result, there is less growth in technology and the country depends heavily on direct foreign investments for the transfer of technology. Foreign investments occur mainly in the apparel sector with investments amounting to US$340 million for 2001. This sector does not have very high technology transfer and most investors came to benefit from the quota system. Sri Lanka may benefit from the current peace drive and if and when it succeeds. There could be a high inflow of foreign investments and transfer of technology (WTO 2001). Anyway, in today's context this could be a long wait.

ii. Export Promotion

The total of FDI inflows reached US$604 million in 2006. The FDI inflows consist of equity capital of US$81 million, loans and advances of US$75 million by the shareholders, foreign loans of US$124 million and the reinvestment of retained earnings of US$324 million by the existing companies. Foreign Direct Investment (FDI) has been actively promoted in Sri Lanka over the past two decades. The country's investment laws are transparent and span across a wide range of sectors. There are no restrictions on the repatriation of earnings, profits, and capital proceeds. Security of investments is guaranteed under the Constitution (Sri Lanka Constitution, Section 157) and bilateral investment protection agreements. FDI outflows decreased to US$30 million in 2006 from US$38 million in 2005 as only a few selected local companies invested abroad during the year.

Foreign Direct Investments are facilitated by the Board of Investment (BOI), which was set up in 1978 by an Act of Parliament. The BOI operates as an autonomous statutory body and is structured to function as a central facilitation point and one–stop shop service centre for investors. The BOI is empowered to grant concessions and incentives from various existing laws operating in the country, such as Inland Revenue, customs and exchange control. The BOI offers various incentives for investors which include tax holidays, a concessionary tax at fifteen percent after tax holiday (a normal company pays forty percent tax on profits), import duty exemptions on raw materials used for products that are exported, exemptions from exchange control, free transferability of shares, and concessionary tax on expatriate's income (BOI, 2000).

A major step in promoting export-led industries was the introduction of Free Trade Zones (FTZs) with tax incentives and infrastructure facilities for export-led investments. The Board of Investment of Sri Lanka (BOI) facilitated the setting up of 150 commercial ventures in Free Trade Zones and 465 outside the zones by 1996. By 2000, nine Export Processing Zones (FTZs) were set up in the country. The major export processing zones are at Katunayake, Biyagama and Koggala, which had been set up by 1991 (Table 23). These FTZs have employed about 86,000 people. The government, in order to promote local investors, provided BOI status to industries, which are export-oriented, and as a result, over 1000 enterprises emerged outside the export processing zones.

Table 23: Export Processing Zones of Sri Lanka

Location	No. of firms	Investment US $	Export US $	Employment
Katunayake	92	102,000.00	2,069,000.00	58,308
Biyagama	45	58,800.00	6,260,00.00	22,160
Koggala	11	26,458.00	66,812.50	5,714

Source: Board of Investment of Sri Lanka 2001, Annual Report

The Board of Investment (BOI) reported that it had agreements completed in respect of 1,976 projects at a value of Rs.600,778 million by the end of December 2007 (Table 24).The investments are distributed among eight major sectors. There is foreign investment Rs.363,029 million during year 2007 for these eight industry sectors (CB 2007, Table 25).

Table 24: Realised Investments in the BOI Enterprises: 2007

Category/ Sector	Food Beverages	Textiles apparel	Wood Products	Paper Products	Chemical Petroleum Products	Mineral Products	Metal Products	Services
Value of Investment (in Rs Mn)*	36,545	67,454	6,163	2.116	39,425	25,519	17,362	389,078

Source: CB 2007, Annual Report, Table 25

The Export Processing Zones/BOI approved industries had provided 86,182 employment opportunities by 1996 and increased to 416,756 by year 2002. Employment grew by eight percent during the last year, reflecting the benefits of the peace process. The number of enterprises was 1643 by year 2002 and the total investment exceeded US $2000 million. The largest foreign investor is Korea, followed by Singapore and Hong Kong. The main activities are textiles, footwear, soft toys, porcelain ware, rubber products and construction of offices and apartments (BOI, 2002).

iii. Non BOI Sector

The non-BOI sector predominantly caters to domestic demand and is comprised mainly of private companies. There are 480 non-BOI private sector firms in the country, though these firms do not include entrepreneur-driven small-scale industries employing less than 25 persons. The majority are private limited liability companies while 102 companies are listed in the Colombo Stock Exchange and are public quoted companies and some of them have BOI status. The public sector industries contribute to only five percent and are mainly semi government institutions with government holding a majority share. There were 12 enterprises under government control with 33,788 employees as at 2001 (Labour Market, 2002). Some of the main public sector institutions engaged in manufacture are Ceylon Petroleum Corporation, Sri Lanka Rubber Manufacturing and Exports Corporation, National Paper Corporation and State Timber Corporation. These sectors are under the threat of the privatization policy of the government and may soon cease to be in the public sector. Table 25 shows the value of production of Non-BOI investment factories in the industrial sector.

Table 25: Value of Production in Non–BOI Private Sector Industries: 2002

Category/ Sector	Food Beverages	Textiles apparel	Wood Products	Paper Products	Chemical Petroleum Products	Mineral Products	Metal Product	Fabricated metal
Value of Production Rs. Mn	67,081	19,576	1,266	4,551	27,780	17,623	2,023	12,752
% of Private firms	99	100	96	95	70	99	100	100

Source: CB 2002, Annual Report.

iv. Industrial Output

The private sector industries account for 94 percent of industrial production in Sri Lanka. Private sector performance is vital to industrial growth. The main contributors to industrial growth are led by the food and beverage industry. They contribute 46 percent of industrial production. Table 26 illustrates the compositions of industrial production.

Table 26: Composition of Industrial Production (Major Sectors): 2007

Textiles & Apparel	Food & Beverages	Chemical& Rubber	Mineral	Fabricated metal	Others
24 %	46 %	16 %	4 %	8%	2 %

Source: CB 2007, Annual Report, p. 35.

The apparel industry saw a decline of 38 percent in 2007 when compared with its contribution of thirty nine percent in 2006. The main reasons attributed to this decline involve the terrorist attack on the airport and the cancellation of export orders; travel warnings issued by several developed countries, surcharges on insurance premia for air and sea transport and travel as well as generally depressed market conditions etc. The pre-2000 periods saw the growth in the apparel sector coming from the consolidation of the market position in the USA and the expansion of up-market and non-quota items in the European Union (EU). Export orders are received through parent companies or partners in major markets and also through domestic buying houses. However, increased competition in the global clothing market and domestic issues related to terrorist activities caused a decline in the clothing sector in 2001 (CB 2001, Annual Report). Food, beverages and tobacco contributed some twenty two percent of industrial output. The government has continued with its private sector led export-oriented growth policy though the government was under pressure to reduce restrictive labour

regulations, relax exchange controls, and improve the business environment through negotiations for peace and to improve corporate governance (Central Bank, 2001). Anyway, the factory industry, which is the largest sub-sector of the manufacturing sector accounting for more than 55 percent of the total industrial output, grew by 6.7 percent in 2007, compared to the 5.7 percent growth recorded in 2006 (CB 2007, p. 35)

v. Labour Management Relations and Trade Unions

a. Trade Union Movement

For several decades, the trade union movement in Sri Lanka has been led by leaders of the left-wing political parties who were continuously elected to the national legislature since 1948. Through their leadership role in the trade union movement they are able to bring sufficient pressure on the sate to bring in pro-labour legislation (Chandrathilake, 1997). The post 1977 regime resulted in an expansion of the working class, but it did not accompany by a corresponding growth of the union movement. This declining trend in union membership has been considered to be mainly due to the defeat of leftist leaders in the 1977 election, and the introduction of open economic policies spearheaded by the establishment of the Board of Investment, which administered the Free Trade Zones. In Sri Lanka most trade unions are appendages of political parties, and therefore the party decides on trade union action, particularly in the form of strikes.

The labour management relationships in Sri Lankan organizations can be broadly classified in terms of public sector organizations, privatized government ventures, public quoted and private companies that include multinational companies, and companies within the free trade zones subject to Board of Investment regulations. Employees have the right to form trade unions but significantly, the recognition of such unions is not regulated by law, which has resulted in various forms of labour-management relationships in Sri Lankan organizations (Amarasinghe, 1992). The labour management relations are governed by various Acts, such as the Employee Councils Act (1979), Industrial Disputes Act (1950), Termination of Employment Act (1971), Companies act (1982) and Employee Trust Fund Act (1980), which are considered to be more workers friendly.

The labour management practices in each of the above sectors differed in the type of collective bargaining capacity, type of trade unions and recognition of trade unions. Accordingly, in the public sector and privatised public companies, trade unions affiliated to

political parties are more prominent and nearly percent of the membership is unionized. The public sector employees were also given the opportunity to form workers' councils, which are associations of labour where the membership is restricted to the organization only. This practice did not find much favour with many government owned institutions. The trade unions' main roles are to push for higher wages as these organizations are governed by public sector financial and administrative regulations. The main wage hikes come to all public sector employees through wage increases announced in the budgets.

The quoted public companies (stock market) and multi-national companies recognize trade unions, and use the collective agreements as a tool for developing industrial harmony. Under a collective agreement which generally spreads to three years, employer and employee agrees on a rate of wage increases, work norms, forms of grievance handling and settling of disputes (Chandrathilaka, 1997). Collective agreements provide the opportunity for the employer and employee to discuss issues related to wages and other labour practices and come to an agreement on key issues for a defined period. The wage levels agreed are normally well above the minimum wages.

In private companies, trade unions are generally not recognized or encouraged and hence employees lose their bargaining power. Their employment security and wage levels are secured through the various Acts, such as minimum wages payable to an industry, termination of employees, payment of compensations, and are overseen by the Department of Labour (Amarasinghe, 1992). The third category, mainly companies under Board of Investment and Free Trade Zones, do not encourage trade unions associated with political parties. However, the BOI has made it mandatory that each institution under the BOI should have a workers' council (termed Joint Consultative Committee, JCC). A BOI representative regularly sits in the JCC along with employers and employees of the organization. Thus, the type of trade union in Sri Lankan manufacturing organizations may vary from a formal trade union where it draws membership from many organizations to a joint consultative committee restricted to the particular organization.

Many traditional Sri Lankan companies continue to experience conflict related labour relations reminiscent of the early twentieth century struggles between autocratic management and militant unions in Sri Lanka. The fact that most unions are organized and managed by national political parties complicates labour-management relations considerably in Sri Lanka. The inability to separate management–labour disputes from national political considerations

has on more than one occasion made it difficult for both managers and workers to focus on practical solutions at the industry level (Chandratilleke, 1997).

Nearly one million employees are trade union members and they are mostly in the public sector. The public sector contains 719 unions, while corporations, which are semi government, have some 431 trade unions. In comparison, the private sector had only 340 trade unions at the end December 2000 (Department of Labour, 2000). The majority of private sector employees were not unionized, including those employed in the Free Trade Zones, though many companies have formed labour-management councils and consultative mechanisms. For example, the garment industry, which employs over 300,000, has a very low level of unionization. The majority of employees are women (82 percent) in the garment industry and most of the companies have workers' councils[2] or welfare societies that consider employee issues and work in partnership with management.

The ability of Sri Lanka's trade union movement to bargain independently on behalf of labour has been constrained by two historical factors: low rates of unionization, and the absence of class-consciousness and solidarity among workers. On the one hand, the membership base of the union movement is small, partly because the proportion of the labour force with the potential to organize is small. On the other hand, the trade union movement itself is fragmented according to occupational, ethnic and ideological factors and lacks a unified collective identity. Certain provisions in the Trade Union Ordinance have also encouraged union multiplicity. For example, the fact that seven people can form a union has encouraged the growth of small unions. Given these weaknesses, political patronage has been necessary for unions and workers to win demands for better terms and conditions of work. As a result, even though trade unions lacked industrial strength they have traditionally wielded a considerable amount of political power in terms of the institutional network in which they operate.

b. Employers' Attitudes and Trade Unions

Kelegama (1996) argued that employers in Sri Lanka are reluctant to tolerate trade unions in their establishments or to recognize and deal with unions. This has created a perception among employers that employees cannot be trusted and that unions are not encouraging productivity increases. He argues that in order to create a better employee–employer

[2] Worker Councils are a form of employee participation promoted in Free Trade Zones in place of trade unions. Members are elected to the workers' council, and both management and workers are represented in it. Workers' Councils meet once a month and discuss all issues related to labour and welfare.

relationship, government should implement policies to encourage employers to invest in better human resource management techniques. More specifically, the employers should take a keener interest in sharing information with employees, implementing gain-sharing schemes and complying with industrial and safety regulations.

The Employers' Federation of Ceylon (EFC), the largest association of employers in the private sector, has argued strongly for the need to review existing labour laws in order to give employers greater flexibility in wage determination, working arrangements and other employment practices including collective bargaining. It is claimed that such flexibility is required to enable entrepreneurs to respond effectively to market needs in a liberalized economy (Amarasinghe 1992). In this context, the Federation has strongly emphasized the need to promote collective bargaining as the most appropriate mechanism for regulating employee–employer relations. Amarasinghe (1992), the Secretary General of the Employers' Federation of Ceylon, argues that the State should take measures to see that collective bargaining is promoted and there should not be a framework of state-regulated wage scheme except to determine the minimum wage level. Collective agreements are a common feature in private sector business establishments. Currently, a number of large private enterprises, mostly multi nationals, have successful collective agreements. They include Ceylon Tobacco Company, Singer Sri Lanka, Nestle Lanka, and Unilever.

c. Labour Standards

The Department of Labour (DOL) is the main body that governs all labour related laws, regulations and labour standards. The Department comprises ten units. The key divisions are enforcement of labour courts and special investigations, social dialogue and worker education, social security, employment of women and children, industrial safety and hygiene, labour standards, industrial relations and trade unions. The Department enforces the Wages Boards Ordinance and the Shop Floor Employees Act, setting up and implementing wages board provisions, labour tribunals and wages board reviews, inspections with regard to compliance with labour standards, industrial safety and occupational hygiene and compliance with various acts related to labour.

The labour standard unit plays an important role in ensuring that the employers comply with the labour standards. The main objectives of the labour standard unit are: to provide a fair, safe, healthy and productive work environment in the work place, to set up of labour standards to provide protection, security, rights and welfare of workers, adoption of national

labour laws to standards laid down by ILO and supervision and enforcement of labour standards.

Table 27 below illustrates the enforcement of labour standards where non-compliance with various Acts are investigated and appropriate action taken.

Table 27: Labour Standards: Law Enforcement

Provident Fund act	Labour Tribunal Orders	Labour Dispute Act	Gratuities Act	Termination of Employment	Wages Board Ordinance	Shop & Office Act	Maternity benefits Act	Employment of Women &Children
326	308	389	437	36	177	82	04	16

Source: Administrative Report, 2000,

d. Trends in Management

An authoritarian style of management was found to be strong among managers of small and medium firms. Authoritarianism is typically characterized by top-down, hierarchical structures enforcing a rigid division of labour. Managers tend to display a strong negative attitude towards trade unions and tend to avoid direct dialogue with shop floor employees (IPS, 1998).

A major change in the approaches to managing labour however emerged in many export oriented industries in response to increased globalization. In the early years of industrialization, low labour costs provided the manufacturing industry with substantial cost competitiveness in Sri Lanka, but the demand by customers to comply with and demonstrate social responsibility has resulted in changes to this traditional approach to managing labour. Compliance with existing labour laws, better working conditions, greater adherence to human rights, strict follow up of working hours and overtime are some of the key factors addressed by the buyers before awarding subcontracts for manufacture. The presence of representatives of buyers, mainly from the UK and USA with specific brand names such as Marks & Spencer, in factory premises in the garment industry, their access to labour and records and verification of labour standards have brought about a major change in management's attitude to labour (IPS, 1998).

The clothing industry has been the subject of continuous customer audits conducted by buyers' representatives, who demand a high level of employee-employer relationships, work environment improvements, implementation of safety and health practices, and monitoring working hours. However, audits are limited to large companies with foreign investment or under foreign control and which deal directly with customers from exporting countries. The change towards a more worker friendly approach has been mainly due to customer audits that demand a fairer deal for workers. In the apparel sector, customers audit the work environment for labour management relations, the organization of work, health and safety, use of child labour, wages and overtime and other welfare activities. The intensive presence of the customer in the companies has led to changes in approaches of the management of the apparel sector. These companies also perform social services by supporting local schools, hospitals, and road repairs in order to maintain rapport with local communities. Some companies sponsor family outings, sports events and food at discount to family members (BOI 2002).

Many managers in Sri Lanka advocate employee empowerment strategies as a means of improving productivity by granting greater opportunities for teamwork and goal setting. Many companies have introduced HRM practices such as team briefing, quality circles and training in leadership and communication for line managers in recent years while maintaining a separate dialogue with trade unions (Employers' Federation of Ceylon, 1988). Management in a growing number of companies has initiated shop floor improvement programmes such as 5S, Total Quality Management and Just in Time, while a section of professional managers has advocated more people-oriented systems of management with employee participation and empowerment as characteristic features (National Productivity Policy, 2003).

e. Management Styles and the Cultural Environment

With increasing competition and modernization, management systems in Sri Lanka have changed showing a shift from family-owned business undertakings to more private and public companies. Hofstede (1984) identified four cultural dimensions affecting management: individualism versus collectivism, large versus small power distance, strong versus weak uncertainty avoidance, and masculinity versus femininity. Although Sri Lanka was not included in his study, these dimensions are relevant for Sri Lankan management as well (Warner, 1999). Upasena (1991) argued that the majority of Sri Lankan organizations are managed through direction and control, characteristics of the Theory X approach. Further, a centralized system of authority and rigid rules affect the level of empowerment, innovation and adaptability in Sri Lankan organizations. Nevertheless, in a study related to the delegation

of authority, Karunanayake (1998) reported that female managers had a high concern for work and willingness to affiliate with subordinates and believed in trust when delegating work. Liyanage (1996) contends that Sri Lankan managers consider loyalty, honesty and pleasant dispositions as important attributes of a subordinate.

Some of the Sri Lankan companies have been successful in promoting Japanese management techniques such as teamwork through quality circles, 5S, and Kaizen. The influence of work values on employee involvement and the achievement of success by changing job structures of employees have had positive effects in Sri Lanka (Jayawardana, 1996). Wijewardena et al. (2000) in a survey of 1000 manufacturing companies reported six factors as main contributors to success in Sri Lankan firms. They identified efficient management, marketing strategy, customer orientation, a supportive environment, capital accessibility and product quality as the factors leading to success. Customer orientation was ranked first followed by product quality and efficient management. Nevertheless, companies find it difficult to progress from a more authoritarian style of labour management to a more participatory style of management in implementing teamwork in the organizations, and this thesis seeks to explore this transition of management style in implementing Employee Involvement (EI) strategies.

f. Evolution of Employee Involvement (EI) Strategies

The Sri Lanka Standards Institute (then the Ceylon Bureau of Standards) first introduced the concepts of quality control circles (QCC) in 1982 to a group of plantation managers as Sri Lanka's plantation and agricultural sectors employed the largest workforce. This resulted in the first pilot project of establishing quality circles in Sri Lanka with the involvement of 23 managers of the plantation sector (Amaradasa, 1983). The initial movement then spread to the manufacturing and service sectors in the late 1980s with the formation of the Quality Circles Association of Sri Lanka in 1988. The manufacturing sector, where multi nationals were involved, initiated the quality movements with the introduction of total quality management in the late 1980s and showed an increasing trend in the use of work teams and quality circles in manufacturing processes. Japanese management techniques such as quality circles, company wide quality control, 5S, Kaizen became very familiar to manufacturing sectors in Sri Lanka. The Japan Sri Lanka Technical and Cultural Association (JASTECA) played a key role in promoting Japanese management techniques in Sri Lanka, by exposing groups of managers to Japanese techniques through regular industrial visits to Japan. The expansion of the ceramic industry in the late 1980s also resulted in many companies being established with Japanese collaboration and the wide acceptance of employee involvement strategies such as suggestion

schemes, quality circles, and 5S. The late 1990s saw companies showing a keen interest in employee involvement strategies and relying on greater employee involvement to improve productivity and quality. The state recognized these attempts through national awards in quality, productivity, safety and 5S (Goonetileke, 2002).

Wijesinghe (1993) reported that quality circle programmes in Sri Lanka were extremely successful as shown by the large number of quality circles, regular company conventions, higher degree of employee participation and the large number of projects carried out. The key findings of his study of eight organizations involving 20 quality circles and 140 members were that quality circles are likely to survive when the management philosophy is conducive with a more democratic participative approach, accompanied by strong values regarding caring for employees. Active support of an initiator can bring success even when management commitment is low. Training in QCs assists in the successful development of QCs, facilitators of QCs play an important role and the educational level does not have a significant impact on the success of QCs.

In the late 1990s, the movement towards improved productivity was enhanced by greater commitment in manufacturing sectors to obtaining ISO 9000 certification. This arose because of the pressure from the export markets and in response to the prestige of receiving ISO 9000 certification. The regular customer audits of garment manufacturing firms, greater compliance with labour standards, and the inflow of foreign capital through joint collaborations with Sri Lankan firms influenced the adoption of employee involvement strategies in Sri Lankan manufacturing sectors (Goonetileke, 2002).

The increased exposure of the Sri Lankan economy to global economic pressures and changes among buyers and in consumer countries has brought about a fast and significant change in attitudes, methods and styles of management in the manufacturing sector. This is the case especially in the garment industry, where buyers have stressed the need to adhere to international labour standards, utilize new technology and improve response times (Kelegama & Epparachchi, 2002). This has resulted in an increased interest among industrialists in adopting effective employee involvement strategies. Japanese management techniques to enhance productivity and quality in the Sri Lankan manufacturing sector are four-fold. Firstly, the increased competitiveness resulting from reduced tariffs in all major sectors of industry in Sri Lanka; secondly, the government's initiative to launch a National Quality Policy (2000) and a National Productivity Policy (2003) and active promotion of national awards for quality

and productivity; thirdly, greater emphasis given by customers to ISO9000 certification; and fourthly the presence of multi nationals with high technology and management expertise.

7. Overview of the Industries

Many studies have been mainly focused on the textiles and apparel industry, tobacco and chemical (personal care) industries. Of these, the apparel industry is export-oriented and has a high exposure to European and American markets. Tobacco and chemical industries have about a 10 percent share of the export market; they mainly produce for the local market. The companies selected for this study have been in the industry for over ten years. Each of the industries and key issues are discussed in the thesis. The clothing industry in particular is mentioned in Chapter 1. Hence, it is not discussed here.

i. Labour Turnover and Absenteeism

A large percentage (41.5 percent) of the labour force in the garment industry falls within the 25-29 years age group. On average, the majority of young women employed by the industry remain in employment for a period of 6 to 7 years (TT&SC, 2001), which has contributed to a high labour turnover in the industry. The shortage of skilled labour available to the industry has an adverse effect on labour productivity. The average turnover rate is 5.0 percent in the industry (2001) but in some cases this increased beyond 10 percent. Average absenteeism is 7.4 percent with extreme cases reporting over 12 percent (TVEC 1999). Many companies are seeking ways to reduce absenteeism and turnover, mainly through incentives, offering better work environments, and redesigning work practices through the application of productivity and quality improvement techniques (Petersdorf & Leckscheidt, 1997).

ii. Multi Fibre Arrangement (MFA)

The Multi Fiber Arrangement regulated the textile and clothing trade (MFA). This agreement is a framework for bilateral agreements that establish quotas limiting the imports into countries with domestic industries facing serious damage from excessive imports. The MFA, introduced in 1974, replaced a number of previous agreements setting up a quota system based on volume. By 2005, after the gradual phasing out of the quota system, the textile and clothing sector integrated to normal GATT rules. This happened in four stages and in 2005 the whole industry faced a quota-free environment. The industry is now facing open competition on quality, price, product and delivery from all countries involved in the clothing industry.

To improve product quality and value addition, the major clothing manufacturers in Sri Lanka have commenced large-scale modernization programmes that include automated systems for designing and grading, process improvement systems, embroidery, pleating, screen printing and semi automation of work stations. Major factors affecting the Sri Lankan clothing industry are insufficient application of modern technology and low labour productivity. Lower labour costs alone may not be sufficient and export-oriented employers emphasize the need to improve productivity and quality (Sri Lanka Apparel Exporters Association, 2001). Only then can the cost of production be lowered and compete in the global market.

iii. Export Industry-Rubber and Ceramics

The clothing industry is a major export business. This industry is explained in detail in Chapter 2.

Rubber and ceramics production earned US$82 million in 2001 (Central Bank 2002, Annual Report). The industries involved in these two sectors mainly cater to the export market. The rubber industry is mainly confined to the processing of latex. Treated rubber wood for the manufacture of furniture is another venture that is gathering momentum. Sri Lanka is one of the world's largest industrial tyre manufacturers and in addition she produces surgical and industrial gloves, pneumatic tyres and tubes for export. Trelleborg of Sweden is the leading exporter of solid tyres. The other leading solid tyre manufactures are Loadstar and Vorwork. They are also established with foreign collaboration and manufacture for export. A solid tyre weighs from 2-500 kg, and annually 400,000 tyres are produced for export (Suraweera, 1999). The Annual Survey of Industries (2002) recorded 214 rubber product manufacturing companies employing 31,634 employees. Twenty one percent of the global solid tyre market is from Sri Lanka and exports 37,000 MT of solid tyres annually. Six large firms control ninety two percent of the rubber product market in Sri Lanka, of which there are three multi-national companies mainly engaged in solid tyre manufacture and export. These companies operate in collaboration with Australia, Sweden, Belgium, Korea and India.

Ceramics is also a successful industry in Sri Lanka. It is a major export industry which dates back to 1973, with the setting up of Noritake Lanka Porcelain Limited, a joint venture with Japanese principals. The ceramic sector contributes to 1.1 percent of GDP and caters mainly to export markets. This sector is also having local raw material such as minerals, kaolin, silica, feldspar, quartz, and ball clay, extensively used in the manufacture of tableware. The value of exports stood at US$ 55 million in 2000 (Central Bank, 2000), of which fifty two

percent are tableware (porcelain). The other major products are glazed tiles and ornamental porcelain. Exports of porcelain tableware reflect a continuous growth and mainly cater to USA and Western Europe markets. At present, the industry faces major threats from China with its expansion of factories. The consumer preference for more casual in-glaze tableware has put pressure on gold and silver decorated high quality products manufactured in Sri Lanka (Central Bank, 2001).

The majority of Sri Lankan ceramic manufacturers uses modern technology and operates via joint ventures with Japan. The foreign partner takes care of the export market. Major markets in this regard are Panama, UK, Australia, USA, and Germany. Seventeen companies are involved in this industry, of which only three are public quoted companies while the rest are private companies (Export Development Board, 2000). Even the joint ventures with Japan face high costs of production, mainly from rising prices of electricity, diesel, gas and wages. Delays in acquiring new machinery, use of older processing facilities, lack of innovation and new products and lower labour productivity are identified as major weaknesses of the industry (Liyanage, 2000).

iv. Miscellaneous items such as Food, Tobacco and Personal Care Products

In 2002, food, beverages and tobacco contributed 13 percent of industrial output. The tobacco sector grew by 4.6 percent. The Ceylon Tobacco Company has the monopoly of manufacturing cigarettes and tobacco related products, and tobacco is a major revenue earner for the government. In the personal care segment, the output of soap and detergents continued to grow with high domestic demand and a new demand that emerged from the North and the East of the country since the start of the peace process. The peace initiative permitted a free flow of goods to the North and East of the country, thereby creating new markets for most of consumer products. The signing of a free trade agreement with India, which allowed India to import soap chips from Sri Lanka, has created a high export demand for soap chips. A major change in consumer markets mainly of toothpaste, shampoo and perfumes resulted from the introduction of mini packs, which afforded the opportunity for low-income earners to use these products. A growing demand for natural products in the form of herbal soap and cosmetics also saw a growth of eight percent in these products in 2002 (Central Bank 2002, Annual Report).

8. Summary

This chapter provided an overview of Sri Lanka's socio-economic factors, the political background, the key demographic features and output growth and income distribution since Independence in 1948. The labour force and industry structure were discussed at length, with a detailed analysis of export processing zones and the major exporting industries. Sri Lanka's economic growth and key factors that contributed to the growth were discussed with particular reference to negative growth in 2001. The chapter also presented a discussion on the industry and economic outlook with particular reference to investment and technology, export promotion and industrial output. It also provided a detailed discussion on labour management relationships, the role of trade unions and the management styles of Sri Lankan companies. In addition, a thorough analysis of the evolution of employee involvement strategies in Sri Lanka was given in the chapter. The following industries subjected to a brief review in this chapter: clothing, rubber and ceramics, tobacco and personal care industries. This chapter provided a broad overview of development of Sri Lanka.

9. Next Chapter

Chapter 4 deals with the literature survey. The research is focused on the effectiveness of training in the corporate sector and therefore literature was searched with this in view. Further, outcome of training is productivity, and information regarding it is also a subject of the survey.

Chapter 4

Literature Review

1. Introduction

The objective of this chapter is to review and present an overview of the available literature related to study. This will enable the researcher to understand what others have done in this area and broaden the horizons of the subject under consideration.

Guiding this study is research question. How could strategic training methods improve performance indicators? The literature search was organized to explore how strategic training in the corporate sector has been applied. In this context, the objective was to identify successful corporate training methodologies. The researcher wished to understand different successful training methods that have been adopted by others. The search was not restricted to the clothing industry but to the best practices available in the training industry as a whole. At the same time, an attempt was made to understand how corporate training could be effective and performance oriented and to evaluate such training methodologies.

The literature on clothing industry training shows that the training conducted by most clothing industries is generally focused on machine operator training. Therefore, strategic training is not easy to come by. This has been a restriction to this research.

Productivity is the outcome of training and attempts have been made to know how productivity improvement gained momentum with corporate training. Historically, a significant portion of the training of the work force and to respond to changes in the industry for productivity have been carried out by manufacturing organisations themselves said Bruce in his unpublished report(2007) to Joint Apparel Associations Forum (JAAF) of Sri Lanka. The numbers trained have been inadequate to feed industry demands and often training has not been aligned well enough with industry needs, said Bruce. Therefore, this chapter has reviewed the relationship between productivity and training. There are research findings with regard to corporate training and its impact on industry in this chapter. Another important aspect of training outcome is training evaluation. Learning aspect of training is evaluation and in short has the trainee absorbed the knowledge and skills as a result of training. This chapter has reviewed training evaluation. Finally, productivity on the clothing industry has been reviewed.

2. Related Literature

i. Productivity

Research by Maglen et al. (2001) on the return on investment from training shows that corporate employees become more productive. This study was carried out on a small group of Australian enterprises producing similar products, which compares enterprise expenditure on training with labour productivity Maglen suggests that some overseas research has indicated that the levels of productivity achieved by firms that invest heavily in training result from forward planning and a "bundle" of human resource practices, rather than being solely the result of training. Maglen investigates whether productivity improvement in enterprises is due to "enterprise dynamics", which is a characteristic of management processes and work practices. Here, relationships between productivity and enterprise dynamics have been established, which means that productivity exists in an enterprise.

Maglen et al. (2001) adopted the following method in their investigation. It was carried out to determine whether use of case studies in Australia to compare similar enterprises can yield a method for measuring the effect of training investment by enterprises on their levels of labour productivity. The method was tested in two manufacturing and two service-based industry sub sectors. In order to test the proposed method effectively, it was judged that the selected industry sub sector should:

1. provide contrasting examples of industry types,
2. have large numbers of similar enterprises operating across Australia,
3. Produce products or services that are clearly distinguishable from their respective inputs and that are measurable.

They undertook studies in two manufacturing sub sectors a metal and engineering sub sector and a light manufacturing sub sector, and in two service-based sub sectors – hospitality and wholesale or retail. In consultation with the respective national industry training advisory bodies (ITABs), the particular sub sectors were then selected. The chosen sub sectors were:

a. Footwear manufacture,
b. Wire products manufacture,
c. Accommodation sections of four and five-star hotels, and
d. Chain-based supermarkets

They selected work sites rather than enterprises. Hence, a case study was of one site of a firm that operates in different locations. A number of different case studies of different sites of the one firm were done. The latter applied to supermarkets, each of which belonged to one of two chains; it also applied to two of the footwear studies, where each site was known commonly by different brand names but belonged to the same company. These case studies were done from January to June 1999. Each case study involved fieldwork, structured interviews, observation of work, and questionnaires. Their efforts were aimed at finding out the correlation between productivity and training.

They measured productivity with the data and figures supplied by the manufacturers. First, they measured the number of products produced per annum and then obtained the value added per annum, which are sales minus raw material cost. Sales figures represented wholesale prices. In addition to this information, each manufacturer supplied the total number of direct hours of work that had gone into producing the output. Labour hours constituted those involved in production such as operatives, leading hands or team leaders, and supervisors. The productivity measurement was based on production per hour of labour and value added per hour of labour.

In the context of training, expenditure played a major role. All manufacturers supplied figures for total training expenditure and computed per capita training expenditure. This was calculated for both management and non-management cadres. However, for both these measures productivity and training they used mostly non management cadre data because it is a priority in their country's VET sector.

Meglan et al. (2001) analyzed the data for the shoe manufacturing industry. A correlation co-efficient of 0.714 was obtained between productivity (value added) and training expenditure on non-management cadres. They established a strong relationship between training investment and productivity for the parameters that existed when using the mean values for both variables. The correlation co-efficient for mean values was 0.870. However, when productivity was computed in terms of production per hour of labour (mean) as against the training expenditure (mean) there was no apparent relationship between training expenditure and productivity. The researchers have drawn the following conclusions:

1. It appears that differences in training investment have contributed significantly to productivity differences.

2. Varying combinations of much the same priorities have operated to encourage employers and managers to invest fairly substantially in training.
3. The method that has been used to demonstrate and measure the level of return on training seems to have potential as a planning tool for groups of footwear manufacturers. They suggest a co-operative approach. They can compare productivity as value added and training as per capita expenditure and benchmark.
4. Where training has been coupled with a drive for innovation in the range, and/or high product quality and/or technological innovation and routine maintenance practices of personnel, training has contributed to their achievement.
5. Where employees have a strong grounding in mathematics and science or technology and well developed English language skills these have delivered extra productivity benefits.
6. The research suggests that training within the context of a high enterprise dynamic has assisted firms in achieving high levels of labour productivity.

While Meglan et al. (2001) have confirmed that there is no apparent relationship between training expenditure and productivity, the author of this current study is also experimenting to find out training effectiveness through productivity in the clothing industry. Although both projects have similarities they differ in the methodology and assessment of the final outcome. The main difference is that Meglan studied the relationship between training expenditure and productivity and expressed it in terms of correlation co-efficient whereas the current study is to find the effectiveness of training as a measure of productivity as major factor along with a few other KPIs. There is a difference in the methodology as well. In Meglan's experiment he did not specify the training and looked at the expenditure on training whereas the present study is considering different training methods specifically targeted to achieve certain goals. The latter has a certain direction that is a training method based on training needs, target audience, and goal- KPIs.

Osaka University and Kyoto University of Japan together have carried out a research funded by JSPS Grant-in Aid Scientific Research to study the impact of training and human resource management practices on productivity. Kurosawa et al. (2005) revealed that corporate training and its impact on productivity generate mixed blessings (i.e., good and bad). They found important but varied interactions among various aspects of human resource management practices (HRMPs) and training. They used manufacturing factories in their survey. The findings have been modest but made a statistically significant impact of off-the-job training

on productivity but failed to obtain a reliable relationship on on-the-job training and productivity. They also failed to establish strong sustainability among various HRM practices and training. These findings indicate that the determinants and productivity impacts of training and other HRMPs are far more complicated and heterogeneous than what conventional thinking suggests.

It is a widely-held opinion that Britain needs to increase work-related training to improve long-term economic performance and address the "skills gap" (Green & Steedman, 1997). Most research hardly examines the impact of work-related training on direct measures of productivity. Dearden et al. (2005) of LSE have said that it is standard in the literature on training to use wages as a significant statistic for productivity but there are many reasons why wages and productivity may diverge. They investigated the effect of work-related training on direct measures for productivity. Their method was unique. They formed a panel of British industries between 1983 and 1996 containing training, productivity and wages. They used a variety of econometric estimation techniques (including system GMM) and found that training is associated with significantly higher productivity. Raising the proportion of workers trained in an industry by one percentage point (e.g., from the average of 10 percent to 11 percent) is associated with an increase in value added per worker of about 0.6 and an increase in wages of about 0.3 percent Further, Dearden et al. (2005) have found that the magnitude of the impact of training on wages is only half as large as the impact of training on productivity, implying that the existing literature has underestimated the importance of training.

There is a belief that HRM practices do not lead directly to financial performance. Rather they influence firm resources, such as the human capital of the firm, or employee behaviour. Bartel (1994) emphasizes that it is through the creation of a skilled, motivated and empowered work force that HRM practices influence operational performance. The productivity (gross margin per employee) has been used as the central measure for operational performance. An assumption was made that HRM intensity can influence productivity by changing employee competencies and levels of motivation, which may result in a quick or better execution of the business process (Bartel, 1994). Bartel also has assumed that HRM intensity can affect productivity through reduced voluntary employee turnover. This was included because HRM is often seen in terms of its retention power, particularly in tight labour markets. The research into the determining factors for voluntary turnover indicates that specific HRM practices can push down voluntary turnover. For example career and training, employee participation etc. Bartel (1994) suggested that training can also be a mechanism for better aligning the skills

offered by employees to the required skills. This fit will probably be translated into higher productivity.

Cooney et al. (2002) have examined the relationship between employee training and quality management practices by analyzing data from a large cross-sectional study of Australian and New Zealand manufacturers. They have examined two hypotheses that are used to explain the impact of training upon organizational performance- the task is effectiveness hypothesis and the strategic effectiveness hypothesis. Multiple regression analysis has been used to test these hypotheses and to examine the impact of training and quality upon productivity, customer satisfaction and employee morale. Some correlation is found for both hypotheses of training effectiveness but employee training is found to have a more significant impact upon organizational performance when combined with total quality management. Cooney and his team suggest from their research that the training effort seems to be paying off. No matter what kind of training programme is implemented, employee training seems to have positive effects upon employee morale and general enterprise effectiveness. Training seems to develop a positive orientation on the part of employees towards their work role and the organization and it seems to play a part in lifting performance by enhancing employee skills.

d'Arcimoles (1997) examined the effects of employee training on the financial performance of 61 French companies and found lagged effects. Expenditure on training by firms has been associated with 'immediate and permanent' improvements in productivity and profitability, leading to the finding that 'substantial training expenses seem to be a good sign of future economic performance'. Some would say training has a direct effect on productivity by raising the general level of skills and enhancing the human capital of the firm. Employee training leads to effective task performance on the part of employees and this is reflected in enhanced firm's performance. The effect of training on performance is discrete and not necessarily the product of the interaction of a comprehensive training and development system (Cooney et al., 2002). The direct effectiveness seeks to identify stand alone benefits that are derived from the training effort itself.

There are number of empirical papers that relate corporate productivity to a measure of training. Most have shown a positive correlation but they have not been able to fully interpret it because the training measures are only measured at a single point of time and cannot be picking up many unobservable corporate specific factors correlated with both training and productivity. Black and Lynch (2001) use an establishment training survey at two points of time. They identified some effects of the type of training on productivity; however, they

found no significant associations where they controlled for plant specific effects. Ichinowski et al. (1997) investigates what factors affect productivity.

The Minister for European Affairs of the EU said that the Dutch Presidency had asked the European Economic and Social Commission, under Urticle 262 of the Treaty establishing the European Community, to draw up an exploratory opinion on Training and Productivity. At the 412th plenary session on 28 October 2004, the European Economic and Social Committee adopted the following opinion among a few others:

The search for and the identification and presentation of the causes of the problems relating to the implementation of lifelong learning policies and of ways to improve the effectiveness of continuing training policies.

All the data from relevant European Commission studies in recent years show (SOC/183-CESE 1435/2004) that developments in the field of productivity are negative for the Union. "During the second half of the 1990s, and following a period of substantial slowdown, the United States saw an acceleration in both labour productivity growth (from an average of one point two percent in the period 1990-95 to 1.9 percent in the period 1995-2001) and in employment growth (from 0.9 percent to 1.3 percent). In the EU, growth in labour productivity slowed down (from an average of 1.9 percent in the first half of the decade to 1.2 percent in the period 1995-2001) but employment growth picked up considerably (from a decline of 0.6 percent in the first half of the decade to 1.2 percent in the period 1995-2001). It is clear that there are considerable differences between the productivity rates of individual EU member states. The European Commission, in its communication entitled "Productivity: the key to the competitiveness of European economies and enterprises" points out that "Economic growth will increase only if productivity rises. Improvements in enterprise productivity depend heavily on a labour force better adapted to the needs of the industry." The opinion of the European Economic and Social Committee of SOC/183 is that productivity is influenced decisively, albeit in part, by knowledge and that new forms for making risk capital available should be part of a wider approach towards productivity growth in the European Union. In today's circumstances, training can effectively influence productivity. Productivity and Training must be examined and linked at all levels including the work place level (CESE 1435/2004).

In recent times, many are beginning to develop a deeper knowledge of the link between training provided by the employer and productivity. According to Barrett and O'Connell

(2001), previously there has been no research in this area due to lack of appropriate data. They claim that they have been able to add data sets through their research which allows analyzing the effect of employer-provided training. They have collected detailed information on firms' training practices and this has helped to estimate the impact of general and specific training on productivity growth. They have carefully captured all the variables indicating changes, and hence in estimating the effects of general and specific training, were able to control the changes that might have an impact on productivity growth.

The previous research by Black and Lynch (1997) was based on data from a single year, and therefore, they suffer from the problem of unobserved heterogeneity. Later they attempted to overcome this by supplementing the original data with data from the longitudinal research data (LRD) of the United States Bureau of the Census. They now find no effect of training on productivity; however, they maintain that this is probably because the information on training is too weak for its effect to be captured in the extended estimation framework.

Barrett et al. (2001) studied measured productivity as output divided by total employment and computed it during the years 1993 and 1995. The training variables were derived from the series of detailed questions relating to the number of employees in training, the number of days spent in training, and the cost of training, including an estimate of the cost of time forgone by employees while training. They constructed three measures: a) The ratio of total persons trained to total employment b) the ratio of total days training to total employment and c) the ratio of total expenditure on training to total payroll. They distinguished between days spent on general versus specific training. The general training courses were defined as "broad skills and knowledge" and specific training as training which is "directly related to the operation of the company". They asserted that general training had a statistically positive effect on productivity growth but no such effect was observable for specific training.

First panel data evidence on the productivity effects of training in Germany was studied by Zwick (2002). He points out that increasing the share of employees participating in training in the first half of a year has a positive and significant effect on a firm's productivity in the same and the subsequent year. He says the impact in the third year is positive but insignificant. What he found is that all training, be it internal or external, shall increase productivity immediately after training or during a period of one year and then it will start to decrease over time. It was interesting to note that quality circles resulted in a sustainable increase in productivity while training on the job had a persistent negative productivity effect. When he controlled selection and unobserved heterogeneity, the measured productivity effects further

increased, suggesting that firms with an inefficient production structure deliberately use training in order to boost productivity.

Training for non apprentices is taken into account. About one third of the companies in Germany does not invest in training at all and cope with qualification demands by other measures (Zwick, 2002). In 1997, about 64 percent of the commercial companies offered training for their employees, while on average 19 percent of the workforce in these companies participated in courses. In 1999, the number of training establishments increased to 66 percent while training intensity was 21 percent. The impact of training on productivity was studied by Zwick for the period of 1997 to 1999. Zwick suggests that training on the job and participation at seminars or talks do not have an impact on the fixed productivity effects of the company. He found that the highest productivity impact could be obtained by more structural approaches, like formal internal and external training courses. In addition, self-induced learning based on electronic training devices and quality circles that are used by around ten percent of German firms have a positive impact on structural firm productivity.

ii. Corporate Training

Wentland (2003) said, “Organizations will support employee training but it will vary and this variability leads to the question, why do some organizations value training more than others?” It must be understood that organizational constraints can limit the amount of training regardless of how much the company values training. Wentland developed a training method, which he called “Strategic Training of Employees Model” (STEM). He tried to balance the need for training against organizational constraints. He says that an organization consists of three components: people, goal/s and structure. While the people factor is the most important, he says the other two cannot exist without people. People form the structure and set the targets. Therefore, any product put out to the market place is fundamentally dependent upon the abilities of the employees at all levels. It is the people that ultimately determine organizational results.

Wentland (2003) explained the need for training and in this context he identified two parameters that are potential training and usable training for any organization. He said the content of these two can be expressed in the following formula: UC = PC – C;

UC being the usable content, PC the potential content and C the constraints. He insisted that training courses must balance the need to provide the proper level of training against

organizational constraints. Too much training is a waste of resources whereas too little could damage an organization's competitive position. Wentland's model is built on the realization that organizations have limited resources, which must be allocated in an efficient manner. He linked employee training with corporate strategic objectives. This relationship is the fundamental bond. He redefined the equation mentioned above as:

USC = PC – NSC – C

Where USC is usable strategic content, PC is potential content, NSC is non strategic content and C is constraints.

USC is identified as employee training plus career development associated with achieving strategic organizational goals.

Therefore, USC = SET + SCD,

where SET is strategic employee training and SCD is strategic career development. Thus, the strategic decision making equation was rewritten again as:

SET + SCD = PC – NSC –C

This training methodology focuses on the organization's strategic objectives and then designing specific training and career development activities to reach those goals. To make sure that training content and investment are properly allocated, the training function is analyzed at two levels, that is, macro and micro organizational training levels. At the macro level, the focus is on identifying the strategic objective of the organization and at the micro level the specific training content is developed to support the outcomes of the macro level analysis. Following the macro and micro level analysis, training programmes are implemented. The next step is to obtain feedback and evaluate the quality of the training. At the micro level who needs to be trained (targeted) and the appropriate training content are identified. Specific employees are identified for training and designs content to perform their tasks/ jobs for achieving company objectives. When determining the specific training content, a four P's approach was utilized that is Place (on the job or off the job), Product (the purpose of the training or how the training should be presented), Promotion (build a relationship of trust between the training area and other departments so that training will be supported), and Price.

Wentland (2003) confirms from his study that employee capabilities and strategic objectives are connected so that they determine company's competitiveness. He claims that by using his method, STEMS, an organization can achieve its strategic objectives in a cost effective manner and it is also a quality training process that nourishes employee skills and abilities that enable an organization to flourish in today's global economy.

Adult training theory (andragogy) and implications for work place training, traditionally pedagogy, dominated the literature on education. More recently, educational psychologists recognized the need to focus on adult learning and developed the theory of adult learning, andragogy. Knowles (1990) is most frequently associated with adult learning theory. Knowles pointed out that employees learn best when they understand the objectives of the training course. The training objective should have three components: an explanation of what the employees are expected to do (performance); a statement of the quality or level of performance that is acceptable (criterion); and finally, a declaration of the conditions under which the trainees are expected to perform for the desired outcome.

Employees tend to learn better when the training is linked to their current job experiences (Noe, 1999). This was because experience enhances the meaningfulness of the training. By providing trainees with opportunities to choose their practice strategy as well as other characteristics of the learning situation, the training experience can be further enhanced. Noe says the employees learn best when they have the opportunity to practice. In addition, the trainer should identify what the trainees will be doing when practising (performance) and the criteria for attaining the objective and the conditions under which the practice sessions will be conducted. He said employees need feedback. To be effective the feedback should focus on specific behaviours and be provided as soon as possible.

Employees learn by observing and imitating the actions of a model. To be effective, the model's desired behaviours or skills need to be clearly specified and the model's characteristics (such as age or position) should be similar to those of the target audience. After observing the model, trainees should have the opportunity to reproduce the skills and behaviours already shown.

Employees need the training programme to be properly coordinated and arranged. Good coordination ensures that trainees are not distracted by events (such as an uncomfortable room or poorly organized materials) that could interfere with learning.

Noe (1999) explained that the linking of adult learning theory with the strategic objectives of the organization is referred to as high-leverage training. High leverage training helps to establish a corporate culture that encourages continuous learning. Continuous learning requires employees to understand the entire work system, including the relationships among their jobs, work units, and the overall company. Employees are expected to acquire new skills and knowledge, apply them on the job, and share them with other employees.

Noe (1999) says employees need feedback and it should be focused on the specific behaviours of the trainees Schmidt et al. (1997) says continuous concurrent feedback degrades skill learning. In two experiments, they investigated the role of continuous concurrent visual feedback in the learning of discrete movement tasks. Many researchers have examined the role of numerous types of augmented information feedback for the learning of movement skills. One type of augmented feedback that has received both practical and theoretical attention in training and simulation settings is termed “concurrent feedback” -supplementary information presented to the learner during the actual action. Schmidt et al suggest that feedback can be presented either discontinuously to signal that the performer is on target at that moment or feedback can be presented continuously (on line) to indicate the level of momentary performance error.

On the surface, continuous feedback appears to be effective for learning because it guides the learner powerfully to the correct response, minimizes errors, and holds behaviour on target. The problem is that the performance gains during practice are seldom carried over to retention or transfer tests in which the augmented feedback is withdrawn. The usual finding is that, according to Schmidt et al. (1997) people who have practiced with concurrent continuous feedback often perform worse on no feedback retention tests than do people who have practiced without such feedback. In other words, continuous concurrent feedback appears to enhance performance during practice when the feedback is operating, but it does not contribute to learning and may even degrade learning, as measured on retention and transfer tests. Schmidt et al. emphasize that measures of performance during training are not generally good predictors of longer-term learning, which is usually best evaluated by retention or transfer tests that are separated from the training setting. There is evidence that factors that facilitate performance during practice are detrimental to retention performance, which is widely considered important in the success of training.

Schmidt et al. (1997) conclude from their experiments that concurrent feedback apparently degrades the learning processes leading to the development of effective retention and/or

transfer performance, which is critical to the success of real-world training and simulation programmes.

Gudenas (2003) explains that business in the world economy today is widely different from a mere decade ago. However, what has not been so broadly confronted is that as the world changes, the methods that keep us up to date too must change. No longer do we have the luxury of learning and practising a single career for the better part of our lives. Gudenas (2003) suggests that fundamentally training is involved in two areas: knowledge, data and skills to be imparted and the people, who need to receive, understand and use them. Technological advances have created enormous amounts of data that must be managed with increasing speed and new skill sets, but far too often employees are not given the tools they need to perform their jobs proficiently. Therefore, training departments are recognizing the need to embrace a more effective training methodology – to evolve from what is referred to as 1T (first training technology which is the transfer of knowledge from one person to another who does not know the skill under consideration) and 2T (second training technology which is the transfer of knowledge from trainer to new trainer -a person is trained to train others) and currently in use is the more modern approach of 3T (third training technology). The fundamental difference between 3T technology and the older approaches is training the trainee to train him or herself.

From this, a variety of training improvements emerged, including gently shifting the responsibility for learning from the trainer to the trainee while empowering employees to keep pace with the onslaught of the new data they face every day. E learning and distance learning are attempts to achieve 3T Technology. Although training trainees to train themselves is the distinguishing element of 3T Technology, other aspects of training are transformed as part of this innovation.

Gudenas says that employees train themselves on the company checklist or the demands of the company and trainers act as quality assurance specialists ensuring that hundred percent is gained from their training. Further, she ensures that the skills that are attained in training are transferred on the job. In this training method, all metrics used for measuring success are monitored including the return on investment. Ongoing quality systems, including scheduled audits, ensure that postulated results are attained, standards are adhered to, and 100 percent compliance is achieved. In this way gradually 100 percent proficiency becomes the standard for all training within the organization.

Gudenas (2003) suggests a measurement to find out the success of the training course. Success is measured using five levels of evaluation:

1. Trainee reaction: What do the employees think of the training?
2. Learning: How much do the employees learn? How proficient are they?
3. Skill transfer: Are learned skills transferred to the job?
4. Organizational results: Does the training improve skills and meet company goals?
5. Return on Investment: What financial ROI results from the training?

Gudenas explains that 3T Technology can produce a hundred percent proficiency as an achievable standard and should be part of the culture change in organizations that want to compete in today's economic and business environment.

Davis (2000) says that in the past, corporate training programmes have been fairly simple to design and implement. However, thanks to modern technology, alternative training delivery methods are now available, which were not available a mere five years ago. The issue facing firms today is not so much whether to use this technology, in particular the Web, to facilitate learning. Davis compares traditional versus online learning alternatives and shows that organizations can successfully engage in both at the same time. He thinks modern training methods such as the Web-based methods must be used mainly to facilitate training and learning.

The new learning decision that companies now must face is more complex and multifaceted. It has to do with how to best mix classroom and web-based training methodologies to achieve desired business outcomes. Technology and information are changing at an astonishing rate. So employees everywhere need to keep their current skills up to date and continuously acquire new ones. According to Davis, the most successful companies understand that to remain competitive today, they must provide their employees with the skills they need to succeed in their jobs. Large companies are using the Web to deliver training. However, Davis does not say that the classroom is dead. He believes that the majority of training courses from technical and process oriented training to interpersonal skills training have largely taken place within the classroom with the help of a skilled facilitator, workbooks and audio/video aids. Everything from time management to effective training continues to be primarily delivered in a classroom setting. The classroom setting was, and still is, widely recognized as being the most effective teaching method for certain kinds of training. Soft skills training have up until recently been absent from the Web. This is because the mastery of these skills is largely

dependent on skill practice-something that is typically done best in a classroom. The advantage of Web-based training is that it can be accessed whenever needed -even minutes before a skill must be used. It can offer training to employees consistently. Classroom training participants must take time off from their regular work schedule and often travel to the training venue. The trainer must be hired and trained.

Web-based learning, on the other hand, requires no travel, no instructor, and no course materials beyond a computer. On-line applications have concentrated mainly on non facilitator-required training, typically involving reading and memorization. The concept of mixing learning methodologies is gaining tremendous momentum throughout the worldwide business community. Davis says the organizations that practice it are reaping significant benefits. There is not a single training delivery method be it the classroom, workbook, CD ROMS or Web-based training – that in and of itself can become a complete training solution. He gives the following reasons for this:

1. People are different. They have different learning styles. Any given individual may learn differently in different circumstances, for example, mood, health and nature of topic. Therefore, the advantage of new technologies is not that they supplant but that they augment the traditional learning delivery methods that have been used over the years.

2. Content is different. Some concepts are easily represented by graphics. More abstract concepts like exercising judgment, building trust and conflict resolution are more difficult to describe and represent. They require written and spoken language as well as interaction and reflection. Some content is easy to understand but other content might be easy to grasp but difficult to apply without significant practice and feedback. These differences in the nature of content require thoughtful decisions regarding instructional design and the delivery platform.

3. Technology infrastructures vary unevenly. Very few companies can apply technology quickly and evenly. Therefore, it is important for firms to conduct a real world assessment of technological readiness and to construct a phased rollout that can accommodate current and future technological training needs.

4. Learning goals vary. Is the learning to be preparatory to other content or events? Is it to be reinforcement of content previously learned? Is the objective to inform or persuade? To change an attitude or behavior. In mastery the goal, or is familiarity sufficient? In truth, the

learning is likely to include a mix of these objectives to accommodate an assortment of learners at varying times.

Davis (2000) suggest that offering different training delivery methodologies can effectively address all of these variables, if done so in a careful and deliberate way.

Dealtry (2002) emphasizes that strategic learning is necessary for success. He describes as a model, the innovative nature and challenge to achieve customized structures, flexible learning processes and time durable intellectual properties in a new or amended company educational paradigm. This model he has named it as model 3. This derivative model espoused business excellence, focused business education processes and timely action. The dynamic strand in Model 3 of the corporate University is the "management of learning" section. One of the main strategic forces driving the corporate University concept is the need to achieve a pace of new learning, knowledge acquisition and knowledge application that is both timely and relevant to the strategic purpose of the business. Therefore, according to Dealtry (2002) the learning strategy should be largely business and market driven.

Huang (2002) suggests that end-user training is increasingly important in today's technology-intensive business environment. Progressive companies remain alert to find ways to provide their end-users with timely training and resources. He has produced an innovative training strategy, which he adopted to a midsize company to provide its end-users with adequate flexibility, and responsive training. He also introduced a three-tier model to facilitate training and improve end-user skills.

Huang describes the training process as research efforts to focus on needs assessment, trainee learning styles, and delivery methods. He further explains that such studies that have been mentioned above are important in understanding the operational issues of the training process; however, they do not address higher level strategic concerns. In this context, Sein et al. (1999) explained that without a training strategy, it will prove difficult for trainers and companies to devise an effective programme to support end-users and meet business objectives, because employers and trainers will only be able to design training programmes based on their personal experiences. Thus, Huang suggests a three-tier training strategy to cope with training challenges. The first tier is general technology education, which is an ongoing effort to impart basic general knowledge and basic technical knowledge. The timing of general education training does not include learning to use a specific technology or accomplish a specific task. The second tier of the strategy is business application training, which is designed and

conducted specifically to teach the use of business applications. It is usually given before an employee is expected to learn to use an application, or when a new employee is hired without sufficient training. The third tier is just-in-time (JIT) training and occurs at the exact time an employee needs to use an unfamiliar or complicated technology application.

Some adopt case studies as a method of training and development. It is commonly used in management teaching and education, according to Rees et al. (2002). They claim that there are many misconceptions about the way to use the method effectively. They explained how case studies can be used effectively in developing management skills and how to write case studies, their use in assessment and cross-cultural issues in using case studies. However, they claim that the technique can be time-consuming. As with any method, judgment is needed about when to use it and when not to. Rees et al. (2002) have found nine potential benefits of using case studies. They are in brief:

1. They help to identify skills - training needs.
2. They enable students to pursue issues across subject and departmental boundaries an integrated view of management.
3. The depth of learning that students can experience is more than surface learning which is the conventional lecture method.
4. They motivate students to learn because they can identify what it is that they need to learn.
5. They can explore issues within the class time.
6. They can collaborate with classmates and such habits of team learning will continue after the class.
7. There is an opportunity to examine the group processes at work during syndicate discussions. Group discussion processes are analyzed.
8. A good case study can be used time after time with any necessary updating introduced as appropriate.
9. Policy and practice can be reviewed.

The case study method is not an end in itself and needs to have clearly specified and appropriate learning outcomes. Considerable expertise is needed in running case studies effectively, according to Rees et al.

Burton (2001) has proposed a framework: the knowledge supply model, which helps individuals, firms and learning institutions understand the dynamics of change and emerging

patterns of knowledge demand and supply in different sectors of the economy. In the new knowledge based economy, individuals and firms must focus on maintaining and enhancing their biggest asset - their knowledge capital. While it is clear that the demand for education and training will increase, it is not clear how the new economy will change, how individuals and firms should best attain their educational objectives and how learning institutions can best satisfy the demand for knowledge.

As working and learning become synonymous, firms, workers, educators and intermediaries will have to adopt new roles and develop new strategies. Jones suggests that understanding the dynamics of knowledge demand and supply should assist all actors in navigating the knowledge markets of the new economy. Education and training are set to be one of, if not the biggest growth industry of the knowledge economy. He says that firms must understand the dynamics affecting knowledge demand and supply and therefore optimize their investments in both acquiring and developing knowledge internally, and accessing it externally. For individuals, understanding the nature of knowledge demand should help them to plan their careers, whether they intend to stay within the firm or chart a more independent course in the market. Understanding the characteristics of different knowledge markets will suggest in turn the type of education and training likely to benefit workers most in the long term.

Working in the UK, Sadler-Smith, Down and Lean (2000), in their article, “Modern Learning Methods; Rhetoric and Reality”, have shown that distance learning methods are no more effective and not considered by the enterprises and they suggest that such training methods must be integrated with other conventional on-the-job training methods. Smith (2002) studied the difference between the distance learning method and the characteristics that typify learners and their workplaces. Sadler-Smith et al. (2000) insists that flexible modes of training delivery are needed for competitive advantage in business. Evans and Smith (1999) have noted that, over the past decade, flexible delivery of training has been enthusiastically embraced not only by vocational education and training (VET) authorities, but also by ITABs, and by individual enterprises. Smith suggests that preparing for flexible training requires change and development not only on the part of learners, but also on the part of enterprises. To make it successful, flexible training needs to be valued together with the need to develop policies and skills to support learners who are undertaking training through flexible delivery methods that may comprise an element of distance learning.

Pfeffer and Sutton (1999) say that most enterprises having done training, the companies widen the gap between “knowing and doing”, they say only few training programmes actually

change. They believe that firms find it difficult to translate knowledge into practice. Knowing what to do is not enough; the challenge for managers is to find out how to do what they know needs to be done. Each year, more than US$60 billion is spent on training in and by firms and company change is based on knowledge and principles that are fundamentally timeless. Nevertheless, the training often is repeated. Regardless of the quality of the content, training is often ineffective in changing organizational practices. Pfeffer (1999) says that evidence from various industry studies and from studies of firms in multiple industries, show that knowledge and enhanced performance do not transfer readily even with firms. Knowledge management tends to focus on specific practices and ignore the importance of philosophy. Why has it been so difficult for other automobile manufacturers to copy the Toyota Production System (TPS). TPS is about philosophy and such things like quality and continuous improvement. It is not just a set of techniques or practices. On the surface, TPS looks simple. They say success is dependent in large measure on a set of practices that values an "attitude of action" and the importance of learning by trying new things. To apply TPS, the company must be in a fairly organized situation. What it means is that company should have good management practices to introduce TPS.

Toshiba UK examined how advances in technology could drive changes in business. They studied how employees should develop new skills in order to keep up with such business change (Toshiba Co. 2002, Training & Management Methods). This seems similar to today's clothing industry scenario.

New technology affects the way many companies are delivering their training. Today's managers are looking for greater flexibility as well as ways to defray their training costs. The much-trumpeted arrival of e-learning is a key consideration here (Toshiba Co. 2002, Training & Management Methods. p. 925). John Hawes, Toshiba EID's National Business Manager, said, "upgrading skills is essential but if they send staff away on long classroom-based courses, they know that there will be a backlog of work for their staff to deal with by the time they return to the office." This is an idea that this thesis has kept in focus when designing the training experiments because it is the same situation in the clothing industry. This can be one of the reasons why both employers and employees are reluctant to upgrade their knowledge.

They have combined e-learning with classroom-based training, so that employees can learn about new technology in ways that are more convenient to them. Their training course consists of three elements: use of satellite technology to deliver knowledge use of e-learning (software to improve administration), and the application of assessment software to test

retention of learning. Training administration is all about training needs and it is now automated. All the training that employees have undertaken is recorded, people can book their courses online and managers can look up, at a moment's notice, what training their people have had in the past year and what they might need. This helps to predict future training needs more accurately and to develop the skills that the employees are most likely to require.

They say that such training must be backed up by classroom training and it is not interactive learning material, as we would expect in classroom learning. It is a high quality video experience. Anyway, in it there is a great deal of information and knowledge about technology, which it is necessary to impart to employees.

Hawes explained in his article (Toshiba, 2002) that they now deliver an hour of self-paced learning material and support this with a one-day classroom module. The employees can study the pre-course information in their own time and, when they come to these classroom events, they have acquired a base of knowledge. The trainers can build trainees' skills in an interactive environment where tutor input and direct feedback are most important. They emphasize that participants must have attained the prerequisite level of knowledge and this can be tested online to ensure that they have completed the necessary pre-coursework. This, in turn, will ensure that tutors in the classroom are not slowed down by people who are not adequately prepared for the training.

iii. Training Evaluations – the Effect

Training evaluation research by applied psychologists has predominately taken a summative perspective. Many years ago, Ford and Wroten (1984) lamented the lack of research on how to bridge the gap between evaluation and programme redesign. More recent training textbooks, including Goldstein and Ford (2002) and Noe (1999), reflect on the dearth of research attention to formative evaluation methods in applied psychology. Most published evaluation research focuses on effects of particular individual differences or instructional strategies on outcomes of the Kirkpatrick (1996) or Kraiger et al. (1993) frameworks.

Ashraf and Honeycuff (2002) examined how to objectively assess training effectiveness with reference to sales activities. In 1959, Kirkpatrick published a paper that classified training outcomes into four levels: reaction, learning, behaviour and results. Kirkpatrick's classic model has survived well. Anyway, it has limited our thinking regarding evaluation. Therefore, Asraff et al. have proposed five levels of evaluation: reaction, learning, behaviour, results and

supervisor/trainer evaluation. Further, they have proposed twenty-seven research questions. The firms will be able to perform more objective training evaluations and conduct more effective training programmes through these research questions.

Morrow et al. (1997) studied the effect of different types of training and utility analysis to estimate the economic impact of training. They have used a multi-attribute utility analysis model and modified it. The results of training programme evaluations, which were conducted on the basis of supervisor, subordinate, or peer ratings showed a greater variation between the effectiveness of the programmes and that managerial training was found to have less effect and utility than technical training.

Bernthal (1995) said that too much trust and reliance on training outcomes such as reaction, learning, behaviour and results will prevent HR practitioners from expanding their thinking regarding training evaluation and may even inhibit their ability to perform meaningful assessments. Many training professionals no longer bother to assess the needs and resources of their organizations or to examine how the results of evaluations may be used advantageously. He emphasized that it was necessary to reexamine some faulty assumptions about four-level evaluations and evaluations in general. One assumption is that evaluation equals effectiveness. Evaluation focuses on the learning aspect of training. It answers the question: “Have the requisite skills and knowledge appeared as a result of training?” Level 2 evaluation in Kirkpatrick’s model. An evaluation can become problematic when it also tries to measure effectiveness. Effectiveness focuses on whether the training has produced the intended outcomes (Levels 3 and 4). To answer the effectiveness question, the evaluator must measure several organizational, individual and training-related variables (Bernthal, 1995). Evaluation and effectiveness are linked. However, they should not necessarily be arranged on a common platform, as they appear in Kirkpatrick’s model.

Typically, most trainers believe that Level 4 is the pinnacle of training evaluation. Nevertheless, each level can provide equally valuable information, depending on the type of trainees being evaluated. Level 1 or 2 outcomes can provide some of the most useful information because these outcomes are often the easiest to measure and change. Bernthal (1995) suggests considering the context, understanding how the training fits within the organization’s operations and culture. Many things in addition to training can affect the work environment (Bernthal). In evaluating Level 3 and/or 4 changes, it is important to measure contextual variables. For example, the lack of management support can undermine even the most effectively designed and delivered training programme. Ask what you really need to

know. Let the answer determine your approach. Choose one level at a time to evaluate specific results.

Bernthal suggests the first task in setting up a long range evaluation programme is to create a training-impact tree. It will help to identify the variables that could affect a training intervention. Before you build the training tree, establish your team. Team members should be knowledgeable about the organization's values and practices, the scope and appropriateness of the training and the factors that could affect training transfer. He developed six-step models. The first is to identify the organization's values and practices. The values must be practiced! The second is to identify skills, knowledge and attitudes. Once values are linked to practices, it is easier to identify the type of training that will enable employees to perform effectively under current conditions. To that end, the team should tie each practice to a list of skills, points of knowledge and feelings that people can be trained in and about. According Kraiger of the University of Colorado, training evaluation should focus on three elements of learning: skills, 'cognition' (knowledge and thoughts) and feelings (attitudes and emotions). In other words, training affects what you do, how you think and how you feel. The third step is defining the scope and purpose of the evaluation. How does training fit within the organization? Step 4 is identifying data sources. The quality of the evaluation data depends heavily on the source. Step 5 is choosing the best method for collecting data. One of the most difficult aspects of developing an evaluation is selecting and implementing an appropriate design. You may ask the following question: How often do you want to collect data? It is best to test trainees immediately after training is completed. Would data from a control group strengthen the findings? How many people should I collect data from? Step 6 is to select the best measurement approach. Step 7 is to gather and inventory your resources. Training evaluations are not one- time events.

Greenberg et al. (1994) explored the gains from multiplying the number of sites used in an experimental evaluation of the effects of employment and training programmes. It is obvious that, with a given sample size, it is more costly to conduct and evaluate a multi site experiment than a single-site experiment. What purposes are served by the former that cannot be served by the latter? According to the authors, there are at least three potential advantages of multi-site experiments.

First, a multi-site design can be used to determine whether the programme being tested 'works' under a variety of conditions. For example, the characteristics of the population being served economic and other environmental conditions, and program components and inputs

may vary. Second, impact estimates can be based on an evaluation sample that is pooled across sites, thereby producing measures that are 'representative' of potential programme effects over broad geographic areas such as a state or the nation as whole. Third, multi-site evaluations can be used to draw inferences about underlying production relationships by examining how programme effects vary with cross-site differences in participant characteristics, environmental conditions, and programme features. In principle, a single experiment can serve all these purposes, but in practice, any single experiment is unlikely to be very successful in accomplishing them all. Therefore, they suggest that the evaluation should be multi-level because it is based on both individual-level and site-level data from multiple sites.

Training evaluation research and practice have been dominated by a focus on outcomes of completed training programmes or on methods used to assess these outcomes. This focus has largely neglected formative evaluation, which involves evaluating training during design and development. Brown and Gerhardt (2002) reviewed existing models of formative evaluation and have suggested an integrative practice model that is specifically targeted at improving training delivered in work organizations. There are a variety of perspectives on how formative evaluations should be conducted. There are a number of such models: Geis method model, Dick and Carey Stage model and Weston and Colleagues component model. Although there are many papers that describe the results of formative evaluations, few studies compare formative evaluation models and perspectives. Geis (1987) says formative evaluation is a crucial component of the systematic design of instruction. Indeed, it is this element that most distinguishes systematic design from other methods of developing instruction. Formative evaluations are valuable but seldom studied directly or used systematically. Brown and Gerhardt believe that formative techniques have the potential to improve training effectiveness so that the value of training will take care of itself.

Performance appraisal researchers have found that frame of reference (FOR) training increases the accuracy of performance rationings (Chirico et al., 2004). Researchers have long lamented the elusiveness of developing performance appraisal systems that accurately measure the construct of work performance. Apparently, one of the most promising methods to emerge for improving the accuracy of performance ratings is frame-of-reference training. Establishing a common frame of reference among raters reduces their idiosyncratic rating tendencies. Chirico et al., 2004) suggests that FOR trained participants are able to remember more of the content presented during the training than those trained by other procedures.

iv. Clothing Industry Productivity

For the clothing industry to survive in the longer term, most countries must act now to strengthen industry competitiveness. This is especially true for developing countries like Sri Lanka, Pakistan, and Cambodia, etc. In order to remain in business in the post-Multi-fibre Arrangement (MFA) era, national authorities must assess the industry through various initiatives. These include developing training programmes and imparting necessary skills, building middle management capacity, promoting sustainable practices such as good labour practices, environmental and social practices, and developing positive dialogue and information flow among industry stakeholders. All these contribute to improving productivity, which, in turn, impacts competitiveness.

In today's world, the clothing industries make a significant contribution to many national economies especially in the developing world. Many countries are exploiting the clothing industry for reasons of economic growth. The Sri Lankan clothing industry is already facing stiff competition in the post-MFA era and therefore, it will need to improve its performance on quality, productivity and technology fronts. The major stumbling block for the Sri Lankan clothing industry is that it is becoming globally competitive. It seems to be the low productivity performance of this industry that is putting it down in competition. A report by Kurt Salmon Associates (KSA, 1998) established that the countries with the highest productivity ratings like Germany, the USA, France and the UK are two hundred and fifty per cent more productive when compared with the least productive countries. The Report used the data available to KSA on productivity levels achieved by apparel factories across the world.

The Economic Institute of Cambodia (2005) states "Cambodia's clothing factories have tremendous potential for increased productivity. Along with these productivity gains, Cambodia can move up the value chain to produce higher quality clothing". Recognizing the importance of improved productivity for firms' competitiveness, as well as for national economic growth, the US Agency for International Development supported a survey on productivity and efficiency in Cambodian garment factories, focusing on labour productivity and its determinants. Over a six-week period in February-March 2005, industry experts and economists collected data from more than 80 factories in Cambodia through interviews, site visits, and questionnaires. Industry experts then analyzed the data and benchmarked training, work methods, maintenance, planning, housekeeping, layout and quality of the companies relative to each other and based on data from five countries (Brazil, China, Egypt, Mexico, and Turkey) with similar or slightly higher hourly labour costs. They also conducted an

econometric analysis of the determinants of labour productivity in the sample factories. The purpose of this study was to identify strategies for improving the competiveness of Cambodia's clothing industry while maintaining Cambodia's strong record on labour standards. The study emphasizes, in particular, the substantial scope for increasing labour productivity through improved management systems and training.

Most simply, the productivity is the ratio between output and input. Within a garment factory, factory managers and line supervisors count the number of garments produced by a line of sewing machine operators in a specific timeframe. To compare productivity across products, factories or even industries, economists define productivity as the value added generated by each worker. In other words, the value of production per worker is productivity.

The key findings of the Cambodian survey were that training is weak, management information systems are deficient, machines are operated inefficiently, maintenance is poor, there are no work study techniques, staff levels are high and basic designs and styles are being produced. To overcome these deficiencies they prioritize training and recommend the establishment of a garment industry productivity-training centre.

Labour costs are fast increasing in India and other Asian countries. To retain its competiveness, the Asian apparel industry will have to pay increased attention to productivity improvement. The 1960s and 1970s witnessed major research initiatives on apparel productivity in Western countries leading to considerable productivity improvements. The Asian Apparel industry, however, shows much lower productivity performance. According to Bheda (2002), the Indian industry is one of the lowest in productivity in Asia. He discusses the productivity level in apparel manufacturing in India. He says there is hundred percent productivity improvement potential for the average Indian clothing factory. The factors associated with Indian productivity are of a techno-managerial nature, and apparel manufacturers can improve productivity substantially by implementing best practices in the area of operator and management training, work-study, industrial relations and productivity linked incentive schemes.

Khanna (1993) established a productivity gap between the garment industry in India and in neighboring countries. His results indicate that Indian clothiers have the lowest productivity. Another study reveals that in India they produce 9.99 shirts per eight-hour shift, whereas the rest of the Asian sample achieved 17.47 shirts per eight-hour shift. The reasons for low productivity had been mentioned as lack of technology, training of employees, product style,

and volume, employee motivation, poor quality, labour turnover and absenteeism, work study, etc.

Bheda et al. (2003) investigated productivity in the Indian apparel industry with the hope of improving it. The study was restricted to tops only. Out of 62 companies, 57 of them had responded to their call. They had predicted the productivity data, based on estimated productivity, using regression analysis. Their study revealed that the most efficient factory reported a performance level that was over ninety five percent higher than that of the average industry. The factors associated with productivity are as follows:

a. the absence of any appreciable improvement in productivity performance
b. low productivity performance
c. productivity improvement potential is available
d. concerted efforts on the part of management.

3. Summary

The literature review has been divided into four sections corporate training and productivity, corporate training *per se*, training evaluations and productivity of the clothing industry. These are the main parameters of this study. The research study is about training effectiveness, which is measured by outcome, which is productivity. Researchers have identified different types of training methods, that is case study approach, on-the-job and off-the- job training, econometric estimation techniques, improving management practices, general and specific training, employee participation in training, strategic training of employee model, adult training theory (andragogy).

The first section is on corporate training and productivity. Here the studies are not restricted only to the clothing industry. The search was carried out in general to find out how corporate training and productivity behaved and their relationships. Some researches say productivity improvement is not necessarily due to training but enterprise dynamics, which is a characteristic of managing processes and work practices. Meglan confirm that there is a relationship between training and productivity. Japanese researchers Kurosawa studied the impact of training on productivity. Their findings are modest but a positive relationship exists between off-the-job training and productivity. They failed to establish a similar relationship between on-the-job training and productivity. They also failed to establish strong sustainability among various HRM practices and training. Dearden suggest that the existing

literature underestimates the importance of training. Barrett says that general training has a statistically positive effect on productivity but no such effect is observable for specific training.

The second section dealt with corporate training and how it has been valued or accepted as part of corporate strategy. Wentland (2003) confirms that employees' capabilities and strategic objectives are connected so that it determines a company's competitiveness. Knowles points out that employees learn best when they understand the objectives of the training course. Noe explains that continuous training requires the employee to understand the entire work system to benefit from it and that employees need feedback which should be focused on specific behaviours of the trainees. Gudenas (2003) suggests a measurement to find out the success of the training course, which is measured by a five-level evaluation method. Huang (2002) argues that training should focus on needs assessment, trainee learning styles and delivery methods. He emphasizes that it is necessary to understand the operational issues of the training process. This section also deals with training requirements.

The third section is about training evaluation, in other words, the outcomes of training programmes. Kirkpatric developed an evaluation system based on reaction, learning, behaviour and results. It is believed that if there is a good evaluation method in place, firms will conduct more effective training programmes. Therefore, a training evaluation system is also necessary to ensure a smooth transfer of skills and knowledge to an employee.

The fourth section is about productivity in the clothing industry as an outcome of training. If training in the clothing industry is good, the general belief is that productivity must rise. Here, specific literature has been cited to understand clothing industry productivity levels and how they are measured. In a very competitive global business, strengthening the competitiveness of the clothing industry has become a *sine qua non* for Sri Lanka to survive as one of the suppliers in main markets. Productivity studies have revealed that Asian countries have not been able to enhance productivity in the clothing sector. This is one of the reasons for this study, which aims to understand how training could help increase productivity. To remain competitive, costs of production must come down and this is possible through productivity improvement.

4. The Next Chapter

Chapter 5 discusses the experimental procedure and data analysis. There are altogether five experiments. These experiments were conducted in factories in real situations. Five different training methods were adopted to see which training method/s would produce better training effectiveness. Training effectiveness is measured as a training outcome. In other words, if people perform well after training then it is believed that training has resulted in better performance. This chapter contains all the data obtained from the experiments.

Chapter 5

Research Procedure

1. Introduction

This Chapter explains the research procedure and method and how the data was collected and analyzed. Therefore, it will begin with the procedure adopted to develop five training experiments. One such procedure was to carryout a pre-empirical test to understand the industry response to training. This test along with the research questionnaires helped develop training experiments.

This research was prompted by the global competitiveness in the clothing industry and doubts about the Sri Lankan industry surviving beyond the MFA phase out. This is the problem that the industry is now facing. The industries know that competitiveness in terms of price is the key to the Sri Lankan clothing industry while other types of competitiveness are mainly of academic interest for a developing country like Sri Lanka. The literature review revealed that price competitiveness can be achieved through productivity improvement. Therefore, methods to improve productivity were considered. Although there are many ways to improve productivity in the clothing industry, training methods and their effectiveness were considered as the modus operandi for the purpose.

The proposition

“Suitably designed training methods shall lead to training effectiveness.”

This research focuses on how training methods result in training effectiveness, which is measured by a change in productivity. Enhanced productivity, as explained elsewhere (Conceptual Framework in this Chapter), will in turn bring down the cost of production while making the industry competitive.

In this context, the effectiveness of training is the key. Therefore, a series of experiments were conducted to see how training would enhance productivity and performance in the clothing industry of Sri Lanka.

Firstly, the researcher identified the problem of the clothing industry. It was conceptualized from past experience and knowledge but later confirmed through a questionnaire that was

developed and sent to thirty factories ranging from small to medium to large. The emphasis of the questionnaire was on the future of the industry. This questionnaire is given Appendix 2, as Research Questionnaire 1 (RQI). The responses to it are discussed later in this chapter.

Since the research was aimed at training, a pre-empirical test was conducted to gauge the effectiveness of training. How did the industry responded to training was necessary to know before the training experiments were tested. With the results of the pre-empirical test, it was possible to deduce a proposition. At this stage two research questionnaires were administered, one (RQ II) to further confirm the real problem of the industry and the other (RQ III) to understand the industry's response to training.

These questionnaires were distributed among large companies across the country. Fifty large companies were identified and although the lead person in each factory was spoken to personally, the response to the questionnaire were poor. The researcher had to personally visit the companies for a response and many had little time to spare for a study of this nature.

Aim

The aim of this research is to improve the skills of staff through training; this in turn will improve productivity and make the clothing industry competitive.

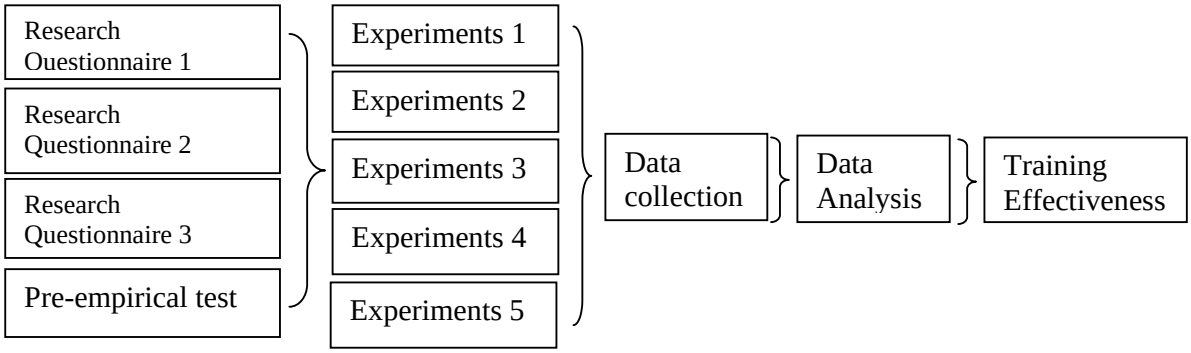
The objective

The objective of the research is to understand the effectiveness of training.

2. Research Procedure

A series of research questionnaires were developed to understand the problem, threats to the clothing industry and the industry's response to training. These questionnaires were administered among the export-oriented clothing industry. The next step was to conduct a pre-empirical test on training.

Figure 5: Research procedure in diagrammatic form



i. Pre-empirical Test

This test was necessary to understand

the effectiveness of current training. In other words, can training in the clothing industry provide a better performance than before? This information was useful to formulate the training experiments.

First, a preliminary investigation was done to understand what companies invest in training. The method adopted was interviews, past experience and advice from senior technologists and industrialists. The researcher selected one large company for this test. The company runs 15 clothing factories scattered across the country, except in the North. At the time of this test, it was the second largest clothing company in Sri Lanka.

At the outset, an employee satisfaction survey was carried out (appendix 1) and the concerns of employees were recorded. These concerns led to a training programme designed to resolve employee concerns. The aim of this pre empirical test was to ascertain the concerns of employees involved in different jobs in the clothing industry. The objective of the pre-empirical test was training to address the concerns of employees and make them happy in work place so that training could be effective. A happy workforce shall have higher efficiency and better KPIs on HR initiatives is a proposition. Those who responded to the questionnaire/survey had to answer on a 5-point scale ranging from 1 (strongly disagree) and 5 (strongly agree). The training was conducted and results analyzed to understand the effectiveness of the training.

a. Sample

i. Factory

Large export-oriented factories were identified across the industry, out of which one large factory was selected. It has 15 export-oriented outfits of which 12 factories were selected for this preliminary study. These factories are located in Western province, North Western province and Sabaragamuwa province.

This company was selected because it accounted for about sixty percent of exports. It has the largest workforce (20,000) among the clothing factories in Sri Lanka. It is a well-established company with a well-defined training structure and commitment to human resource development.

ii. Employees

A questionnaire (appendix 1) was administered to 881 sewing machine operators, 1324 middle managers including supervisors and 194 departmental managers. All these employees were selected at random but they represented all the departments

The training course was delivered to over 1000 middle managers, who included 680 supervisors and 328 executives and 50 employees consisting of managers and senior managers selected randomly.

b. Design

An attempt was made to understand the concerns of operator level employees, supervisors and middle and senior management staff. This was done through a different Questionnaire (appendix 1) for each job category. The responses to each Questionnaire were analyzed and what surfaced were the training needs. A 24 contact hour training programme was developed and launched for middle managers and a 20 contact hour programme for managerial staff. The outcomes were measured after six months of post-training. If the concerns were resolved, then employees would be happy and thus efficiency could be improved. It was decided on the premise that increased efficiency would increase productivity that the cost of production could be brought down.

Efficiency improvement through resolving the concerns of employees is also appropriate because questionnaire 1 (appendix 2) revealed that there exists a threat to the industry in the

form of price competitiveness. Efficiency improvement could thus be justified because it will bring down the cost of production.

c. Implementation of the Pre-empirical Study

i. Test Method

Operator Level

This study commenced with an examination of the concerns of operator level employees. First, a random sample of five factories was selected and their supervisors were instructed on how this questionnaire should be administered to the operators. The operators selected were those not only working on sewing machines but also others of similar job levels.

The questionnaire had 39 multiple-choice questions on a five-point scale and one open-ended question that required the respondents to make their comments. The five-point scale ranged from 1 (strongly disagree) to 5 (strongly agree). The responses were analyzed and the results given to employees.

With the experience gained from this exercise, a second survey was undertaken of 12 factories including the ones that were studied before. This was again of operator level employees. The same questionnaire was administered.

Operator level employees' concerns as they emerged were discussed with the supervisors in order to eliminate them. The discussion was in the form of a carefully constructed training programme of a continuous duration of 24 contact hours. It was felt that if supervisors could be trained to handle operator level employees, then most of the problems that operators identified in the survey could be eliminated and result in a happy contented workforce and, in turn, higher efficiency. That was the rationale of the training course.

Middle Management Level

The concerns of the middle managers were sought through a questionnaire and discussed with the departmental heads and managers. In this case, too, the departmental heads and managers are responsible for motivating the middle management cadres, mostly supervisors. These discussions were also in the form of a training programme for managers of a continuous duration of 20 contact hours.

For this category, the questionnaire had 42 questions and one open- ended question. Twelve factories were surveyed. Here too, the sample of middle managers was drawn from all the departments in the factory without restricting it to one job category. Their concerns became the training needs and a course was developed and delivered to managers.

Manager level

A survey of managers and senior managers was also done with a questionnaire consisting of 49 questions and a write in comments opportunity. Their concerns were also addressed through a management-training programme, which took the form of a workshop. Their problems were discussed with the GMs and CEOs concerned and solutions arrived at so that these senior managers could resolve their problems.

The data collection and analysis are given later in this chapter.

ii. The Research Method

a. Introduction

World over, the clothing industry has become very price competitive. Therefore, the factories must be able to produce garments at market rates. If efficiency can be increased then cost of production can be lowered.

If training could improve efficiency and thereby increases productivity, then it will, in turn, reduce the cost of production. The research question of this study is how could strategic training methods be effective and improves key performance indicators of a clothing factory in order to be competitive? In another way, what would be the training method that could bring about good performances in factories? This is the rationale for studying the effectiveness of training.

b. Brief method of the research

Three questionnaires were developed and administered to find out the industry problem, threats and the response to training. The responses revealed the present industry status and how much recognition the clothiers give to training. A pre-empirical test was administered to find out how effective the training in the industry would be in the present context.

A literature review was carried out to understand how others in the corporate sector have conducted training. The review was done under four categories: corporate training and productivity, corporate training, training evaluations and productivity. It was revealed that training has been done in many ways. The knowledge gathered from the literature and research questionnaires and pre-empirical test helped to plot the study framework for the research. The results of the research questionnaires are given in Chapter 6.

Altogether, five different training methods were designed and they were implemented in factories in a real situation. Training outcomes were measured in many instances in terms of change in productivity as a performance indicator. The participants for each training intervention/experiment were selected carefully. All the training courses were done according to the needs of the enterprise. The main need/purpose was competitiveness.

A carefully selected staff team from each company together with the researcher developed the curriculum for each training course. The training courses together aimed to enhance productivity; technological applications; production management skills; human resource managing skills; and overall factory performance. All the training initiatives of different types addressed the need for overall manufacturing excellence, which in turn may impact on production cost. This was the rationale for developing the training methods. The problem was addressed through training. At the end of each training experiment, an evaluation was done to ascertain how the training was delivered. This was checked by using a course evaluation form (appendix 3). Finally, the training outcome was measured to know how effective the training was.

c. Conceptual Framework

Training should enhance the skills of individuals and will thus show improved performance. This in turn will increase productivity. Productivity being output over input, in this equation the output is normally the number of pieces produced and input is the expenditure incurred to produce them. As a result of productivity improvement, the cost of production per piece will come down. For example, if 100 pieces are produced for US$10.00, then productivity is 10 pieces per US dollar. Similarly, if 200 pieces are produced for US$10.00, then productivity is 20 pieces per US dollar. As productivity goes up, the cost per piece comes down.

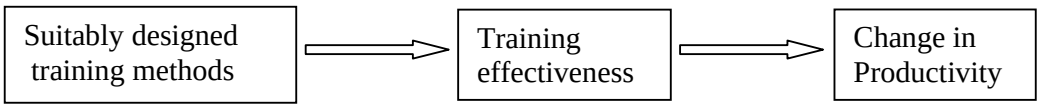
The cost per minute (CPM) is the vital buzzword in today's export-oriented clothing factories. CPM is calculated by dividing the total overhead by the earned minutes. The earned minutes

are the number of pieces produced multiplied by the minute value to produce per piece. Since the time to produce one garment is constant, what is done is to step up production to increase the earned minutes. This can be done by increasing the efficiency. Once the earned minutes are increased then the CPM can come down. Therefore, if CPM is reduced, then the cost of making (C & M) can be reduced. This is because CPM multiplied by minute value taken to produce a garment shall give the cut and make cost which is the cost of production up without the raw material cost. All this is possible if we increase the number of pieces per unit of time (efficiency). The training objective of all experiments is thus the improvement of performance.

To improve performance, the main dependent factor is training. Employees must work not only intelligently but also at a certain momentum or speed, for which skills are necessary. Skills can be imparted predominantly by training. The method of training is of primary importance. If the training method is not right, there is no result because the training has not focused on the target. Training consists of a few variables, which can cause changes in the effect of training (i.e., the training outcome). These variables are: training delivery; trainees; acquisition of skills and implementation of skills and knowledge (what has been learnt from the course). Each of these variables has a number of components. For example, training delivery has training needs, curriculum development; trainees, imparting skills while acquiring skills; (i.e., acquiring skills involves ability to understand, motivation and interest). Implementation must have the fullest co-operation of the management and urgency to bring about change. All these variables together will provide the training cycle and to be successful they must all operate in concert (as described in Chapter 1). Otherwise, the expected outcome from training will not bring about the required benefit, that is, productivity improvement. In this concept, the training method is the vehicle or the medium while productivity is the catalyst that will cause the cost per minute to fluctuate plus or minus.

This research focuses mainly on the training method and how it will provide effective training in order to achieve the desired strategic outcomes. Training effectiveness is measured in terms of changes in productivity or any other performance indicators in the factory.

Figure 6: Diagrammatic description of conceptual framework



d Sample

The five experiments that were planned are different to each other. Their sample size is also different from each other. For some experiments, the sample is the number of factories and for others it is the number of people. When the outcome of training is measured by the performance of the factory, the sample size becomes the factories. People become a sample when individuals are given training and their outcomes are measured. Sample size is given in the data collection section as per each experiment. The target group for each experiment is also identified.

e. Experiments

The following are the experiments in brief:

Experiment 1

Enterprise Needs:

To upgrade their performance in terms of improved efficiency and productivity so that the company can be competitive and sustain its market share.

Specific need:

Performance improvement

Participants:

Middle management cadres in factories.

Training method and Curriculum:

This is a practical based training approach rather than theory. Training was carried out on the shop floor where appropriate. Some classroom instruction was also given. Each of the trainees was given a specific performance task and skills imparted to perform it to the required standard. Appropriate training implements were used to transfer the skills. The trainer regularly made visits throughout the post training session and wherever necessary training assistance was given to trainees during that period. The curriculum included a host of productivity related features such as production management and control, productivity, efficiency, methods improvement, etc.

The training period was three months. This training was imparted to middle management cadres of three large clothing factories.

Measurement:

After training, each enterprise was visited regularly and work supervised. After six months of training, the outcomes in terms of efficiency were measured at each enterprise. This is to say, a company had nine months of the trainer's influence before being subjected to measurement.

Experiment 2

Enterprise Needs:

To step up the enterprise into a technological level and bring about an enhanced image.

Specific Need:

To install technically skilled professionals at management level to drive the enterprise into the innovative and value added product range.

Participants:

Highly intelligent engineering graduates in middle management were considered for training. They had no previous experience.

Training method and curriculum:

Training delivery was based on theory supported by factory-based practices, projects and brain storming discussions. The trainees were encouraged to use self-learning instruments to master the task. A specific curriculum was developed on creativity and innovations in order to bring in newness and breakthrough ideas to the thought process. The curriculum included clothing manufacturing related subjects such as work-study, machine technology, production planning and control, quality control, etc. A good overall knowledge of clothing manufacturing was given through conventional classroom sessions to the participants. Two trainers were allocated to these trainees.

The training period was of six months' duration on a full-time basis. A continuous assessment in terms of presentations was carried out during their training period.

Measurement:

Every participant was evaluated after one year of training. Their performance in terms of bringing about innovations and value added product range was measured and interviews were held with their bosses to understand their behavior and capability. The emphasis was on innovation and newness and the overall contribution.

Experiment 3

Enterprise Needs:

To have highly professional managers with in-depth knowledge of clothing manufacturing, who could take the company to the next level?

Specific Need:

To have skilled technical managers who could contribute to the growth of each factory in the areas of technology and decision making capability.

Participants:

Experienced executives from the clothing industry were selected. They had no previous systematic technical training in the field of clothing production management. Participants were selected from different factories scattered across the industry.

Training method and curriculum:

Training delivery was similar to Experiment No. 2 because of face-to-face training in classrooms. Training was given to individuals over a period of one year and the curriculum was on production technology and management.

The training emphasis was on benchmarking. The trainer visited the factory at regular intervals (once a fortnight) and imparted skills and knowledge on production related problems to individual trainees in each factory. The trainer recorded any deficiencies in the trainee by comparing what had been done against the standard. These were considered the trainees' gaps, which needed further development to fill. Every quarter a workshop was held to discuss

each individual's gaps and training was given to overcome the gaps and finally the trainer prepared an action plan for the trainees.

Measurement:

Every participant was individually evaluated one year after the completion of training. Interviews were held with their bosses to understand their performance during the one-year period. A host of KPIs were measured in each factory.

Experiment 4

Enterprise Needs:

Most factories have problems related to human resources such as soft skills and behavioural matters, which cause production problems. It was felt that a contented workforce with better understanding of fellow workers would produce quality products at high levels of efficiency. Efforts were made to solve human resource problems.

Specific Need:

Identify HR problems in companies and offer soft skills so that efficiency can be increased.

Participants:

Supervisory staff in clothing factories.

Training method and curriculum:

Nine common problems of employees were identified and presented them in the form of a drama to an audience of supervisors. They witnessed the play which was in DVD format and discussed matters of concern with a panel of experts who were also in the audience. Both these parties were able to find a solution to each of the problems. Then the whole act was recorded on to a DVD. It had a host of common problems, which were shown in the form of a film depicting the case, followed by answers to the problem from fellow supervisors and the panel of experts. Finally, a short film was shown on how the problem should have been handled.

At the end of the exercise, the HR manager who conducted the programme held a discussion with his/her supervisors as an interactive session. Finally, they were given a question from the

play to answer. This helped to know whether the supervisors had understood the solution to the problems. If they had understood then their managerial functions should improve and thereby efficiency should improve.

Measurement:

Each factory had to play the DVD before the supervisory cadre and middle level staff. Each of the participants had to answer a question and three months later factory efficiency and KPIs of HR were measured.

Experiment 5

Enterprise Needs:

To increase productivity through efficiency improvement. The need to have a much focused staff for this purpose. This was based on specific subjects related to productivity improvement.

Specific Needs:

Sewing machine operators and supervisory staff must be skilled, motivated and encouraged to achieve higher efficiency levels and thereby improve productivity and reduce waste. The cost per minute is to be reduced as well.

Participants:

It is necessary to have the right kind of trainees for the programme. This was a matter of concern when selecting participants for each of the training sessions. Therefore, every effort was made to get the right participants for the course.

The trainees were selected from five factories within the group wherever possible so that there was proper representation across the five companies. As stated earlier, most of the participants were from the supervisory cadres.

Training method and curriculum development:

Five factories each having over 600 sewing machines were selected from a wide geographical spectrum. All factories were of similar standard because they all belonged to one group of companies, which is a conglomerate.

Participants for training were selected mainly from the operator and supervisory cadres. However, middle management cadres of executives were also considered for certain training courses. Trainees were selected at random to represent each job category.

Each of the training courses for machine operators and for supervisors was developed according to the strategic demands of the industry. Every training programme had a purpose and a requirement. In most cases, it was efficiency/productivity improvement as per the outcome of the research questions. This was the main focus of the training.

Training for sewing machine operators was interactive and participative. Operators were encouraged to meet the efficiency targets and their curriculum included the importance of survival of the industry. Patriotic feelings were also infused in them in order to encourage them to meet the efficiency targets because otherwise the industry might have to close down. Supervisors were asked to come out with success models of efficiency improvement and they were discussed with the trainer. The trainer assisted them to launch the model.

The training delivery was administered in a conducive environment. All of the required training material and facilities were provided. Qualified trainers were used in the courses. There were classroom and onsite training.

Measurement:

Measurements were earned standard or standard earned allowed hours and cost per minute.

f. Staff Attrition

The staff attrition is common in the clothing industry. When trained employees leave the work place, this situation can cause enormous pressure to manufacturing process and can expect a significant drop in the earnings and profit. Higher attrition rate in a factory could cause continuous training on the same subject thus waste of investment on human resource development. At the same time, if there is attrition then it is not possible to continue with

good performance because trained employees are leaving. This was the background to incorporate a test on attrition for this research. Otherwise training can become of no purpose.

g. Training Evaluation

All training methods were subjected to training evaluation. This helps to know whether the trainee has been able to grasp skill and knowledge to perform a task. A training evaluation form has been designed for this purpose. It has three sections, i.e. trainees respond to training, the acquisition of skills and can the skills transferred to the specific job. For every experiment a training evaluation was carried out. The results were expressed as a percentage and higher the percentage better was the training delivery.

3. Summary

The research procedure was to find out the effective of training methods. At the outset a set of research questionnaires were administered to understand the status quo of training in the clothing industry. The information derived from these questionnaires helped to design the experiments. As such, five training methods were developed and training was conducted in factories. The outcomes of training were found.

4. The Next Chapter

The next chapter will show how data were collected and data analysis. This section will have a description of every experiment as well as analysis of data.

Chapter 6

Data Collection and Analysis

1. Introduction

This section explains how the researcher collected the data for each experiment. Here, it starts with how the sample size was determined and then how the data were collected. The data collection method was different for each experiment and is explained under each experiment. However, first it was the responses to the research questionnaires, which were useful and influenced the research method.

2. Data collection of research questionnaires

a. Research Questionnaire 1

At the very outset, it was decided to study the status quo of the industry and its concerns through a research questionnaire. (See Appendix 2, RQ 1.) This questionnaire was circulated during the month of January 2003.

i. Sample

Thirty export oriented clothing factories were identified out of 850 such companies for this survey. These factories were small, medium and large factories scattered across the country. The selection was done at random and all the factories had been in operation for not less than five years.

ii . Data Collection

All these 30 factories were personally contacted by telephone and/or by visiting the factory. The questionnaire was posted to some factories and to others it was personally handed over. A stamped envelope was given to each factory to return the duly completed questionnaire. Only 12 factories (one small factory, four medium factories and seven large factories responded. Their data is collated and displayed in Table 28.

Table: 28 Industry understanding of the future

Activity	1	2	3	4	5	6	7	8	9	10	11	12
Ready for MFA removal?	No	No	No	No	No	No	No	No	No	No	No	No
Will there be a different Competition?	Yes	Yes	Yes	Yes	Yes	yes	Yes	Yes	Yes	Yes	Yes	Yes
What type of a competition?	V.high	V.high	V.high	V.high	V.high	V.high	V.high	V.high	V.high	V.high	V.high	V.high
Key elements in the competition?	Price	Price	Price	Price	Price	Price	Price	Price	Price	Price	Price	Price
Industry meeting the future Challenges?	No	No	No	No	No	No	No	No	No	No	No	No

Source: RQ 1 data

The information above was useful to understand the clothing industry problems and concerns.

b. Research Questionnaire 2

This research questionnaire was launched in June 2004 to confirm the competitiveness which was highlighted in Questionnaire 1 in January 2003. Since the USA had come out of its recession by then and also from the 9/11 tragedy, still was not sure whether USA practiced low cost buying practice. Therefore, there was a need to know the current status including buying strategy of the global industry.

i. Sample

The questionnaire was sent to a sample of 50 clothing factories – small, medium and large – across the country the sampling procedure was similar to that for Questionnaire 1. Only 15 factories responded.

ii. Data Collection

Every effort was made to collect the duly completed questionnaires. Although the questionnaire was posted to many different types of clothing factories, the replies received were mostly from lightweight woven fabric garments manufacturers, and only 15 companies responded.

c. Research Questionnaire 3

Through Questionnaire 3 information was gathered about the interest in training. The questionnaire was divided into four sections: training, training delivery, acquisition of skills, and performance. A certain emphasis was given to each section and finally rounded to hundred percent to provide a perception on training. Table 29 shows how the individual factories participating in the survey demonstrated their interest in training.

i. Sample

Fifty clothing factories across the country were identified at random for the questionnaire. These factories included small, medium and large factories. The sampling procedure was similar to that for Questionnaire 1. Only 16 factories responded. All of them manufacture light to medium weight woven garments. A fairly large geographical spectrum of the Western province was covered in this survey.

ii. Data Collection

As with the previous Questionnaire, every effort was made to collect the duly completed questionnaires but only 16 completed questionnaires were collected. The accent of the questionnaire was on training and the interest that industrialists show in training. How much effort do they put into training? The data is presented in Table 29. The average response to training is 48 percent.

Table 29. Industry interest in training and training cycle

Company	m/c	Training (30)	Training Delivery (45)	Acquiring Skills(30)	Performance (30)	Total	Response to training 100%
1	1300	23	45	25	28	121	90
2	1000	20	40	15	27	102	76
3	775	15	36	25	23	99	73
4	280	21	17	05	20	63	47
5	90	14	35	15	28	92	68
6	230	13	23	20	28	84	62
7	2000	23	20	23	13	79	58
8	2700	28	43	10	27	108	80
9	684	21	32	15	18	86	64
10	1400	13	12	15	18	58	43
11	240	13	07	05	04	29	21
12	110	11	15	18	04	40	30
13	120	10	05	00	04	19	14
14	92	11	07	00	04	22	16
15	265	11	07	00	02	20	15
16	1100	10	07	00	04	21	16
Ave	---	16.06	22.06	11.93	15.75	65.18	48.31

Source: RQ 3 data

d. RQ on Pre-empirical Test

A pre-empirical test was carried out for all levels of employees on the shop floor to find out how effective the training would be. It was designed to understand the concerns of shop floor employees; if these concerns could be resolved through training then the employees would be happy and thus efficiency would increase. Therefore, all levels of employees in the factory were given training. After the training, a six-month post period was allowed before measuring the effect of the training. Different questionnaires were given according to the level of the job of the employee.

i. Sample size

A large conglomerate in the textile industry was identified and 12 of its clothing factories were selected for this survey.

ii . Data Collection

Questionnaires were administered for three different types of job categories: operator level; middle management level and manager level. The concerns of the subordinates were identified as being caused by the poor behaviour of the superior and therefore superior cadres were given training. There were three levels of data to study (Table 30). The responses given by the operators would lead to the training of supervisors who, in turn, would be able to solve the operators' concerns. It was the same for the other two job categories, that is, middle managers responses to questions will lead to managers being trained and managers responses to questions will lead to the training of senior managers. The duration of the training course for the supervisory level was 24 hours while for each of the other two levels it was 20 hours. The responses to the questionnaire were expressed in term of a five-point scale from 1 slightly agree to 5 strongly agree. For each job category, a corresponding questionnaire was administered and a mean was computed. Then a grand mean was calculated considering all participants and factories. The score given in the questionnaire represents the individual's satisfaction with the company. For example, in one job category, a person would answer all the questions in the questionnaire and give a score of 1 to 5 depending on his/her satisfactory level for that particular question and then obtain the mean value of that person which is a score of satisfaction. All participants' average for that job category across the factories is the grand mean. A training course was designed based on this data. It is possible to find the high and low values of participants and know the percentage of low values for certain questions. Those are the training needs and a course is prepared to meet those needs. After participating in the course, employees were expected to perform better without difficulties and concerns. The outcomes of the training were measured after six months of training. Table 30 shows how all levels of employees in the 12 clothing factories responded to the 39 questions. They showed a satisfactory level in terms of the grand mean. This table shows operators are more contended than middle and senior managers.

This survey was done for sewing machine operators in April 2003; for middle managers on 7th May; and for managers in October 2003.

Table 30: Responses of Employees to Questionnaires (pre-empirical test)

Job Category	No. of Factories	No. of Participants	Grand Mean
Sewing Operators	12	881	4.07
Middle Mgt.	12	1324	3.75
Managers	12	194	3.84

Source: RQ data on pre-empirical test

The courses were carefully drawn to include all important areas highlighted in the completed

questionnaire. The first training was for middle managers, who included supervisors. Later, the managers and senior managers' courses were conducted.

The middle managers training for 1000 employees was started in June 2003 and completed in December 2003. For managers and senior managers it commenced in early January 2004 and finished in July 2004. The outcomes in terms of KPIs (data) are collated in Tables 31 to 34 below.

Table 31: The efficiency results of the factories from January to September 04

Factory	Period	Ave.Efficiency %	Range	Variation in points
1	Jan.04- Sept.04	58.4	45.4-69.8	24.4
2	-do-	51.85	38.7-66.6	27.9
3	-do-	59.04	49.7-78.8	29.1
4	-do-	50.45	34.7-67.0	32.3
5	-do-	52.31	38.7-66.6	27.9
6	-do-	51.18	33.4-62.8	29.2
7	-do-	32.46	26.0-50.1	24.1
8	-do-	40.12	29.4-48.3	18.9
9	-do-	52.71	28.7-74.7	46.0
10	-do-	45.29	29.1-64.1	35.0
11	Jan.04-June 04	52.93	21.4-76.8	55.4
12	Jan.04- May 04	52.38	36.1-63.9	27.8

Source: RQ data on pre-empirical test

The other KPIs were cost per minute (CPM), labour turnover (LTO), and absenteeism. These results were captured from September 2003 to August 2004, a full year. These results/data are from the lead factories to which the 12 factories belong. These are the averages of each lead factory and these have been worked out within that cluster. Therefore, it is cluster average.

Table 32: CPM and HR indicators after training – September 2003 to August 2004

Parameter/ KPI	Lead Factory 1	Lead Factory 2	Lead Factory 3
CPM (US Cents)	8.82	9.82	14.9
Range of CPM	7.61-11.14	7.26-11.90	10.55-21.83
LTO %	2.61	5.40	6.23
Range of LTO	1.41—3.64	3.61-7.76	2.8-12.25
Absenteeism %	5.23	6.29	7.0
Range of Absenteeism	3.8-6.9	4.6-7.8	5.8-8.8

Source: RQ data on pre-empirical test

Table 33: The Efficiency Results before training from June 2002 to January 2003

Factory	Ave.Efficiency %	Range	Variation points
1	45.7	39.9- 65.6	25.7
2	52.6	36.4- 59.8	23.4
3	53.1	45.4-75.6	30.2
4	51.6	48.5-69.7	21.2
5	57.3	40.8-67.9	27.1
6	44.2	35.6-56.9	21.3
7	46.9	37.9-58.2	20.3
8	50.9	44.6-59.6	15.0
9	38.9	31.5-55.2	23.7
10	41.4	37.4-63.6	26.2
11	48.5	40.1-57.9	17.8
12	58.4	45.4-68.3	22.9

Source: RQ data on pre-empirical test

Table 34: The CPM and HR initiatives before training from June 2002 to January 2003

Factory	CPM	Range of CPM	Absenteeism	Range of Absenteeism	LTO
Lead 1	8.97	6.78-11.74	4.98	4.0-6.5	2.82
Lead 2	10.1	7.9-12.95	6.47	4.7- 6.9	5.29
Lead 3	15.3	10.9-20.8	7.4	6.1-8.4	6.18

Source: RQ data on pre-empirical test

3. Data collection of experiments

a. Experiment 1

This was an experiment to find out how training could improve key performance indicators (KPI) of a clothing factory. Efficiency, lost time, cost per minute, and absenteeism was measured after the training programme. If these parameters can be improved, the market share can be sustained even in a competitive market. Can training increase performance was the aim of the experiment.

Sample:

The sample consisted of a number of factories. Two criteria were adopted to select the sample size. One was that all factories had to be large and have more than 500 sewing machines while the other was that all factories must produce the same product. Thus, three large factories producing pants were selected.

Training Method:

Six employees per factory from the middle management cadre were selected. All three factories had common training needs. The training is all about performance. For them to survive in the future they had to bring down the cost per minute. So, they all identified a few KPI parameters to improve. They are efficiency, lost time, cost per minute, and absenteeism. These are the subjects, which were taught in the course. Most of the training was done on the shop floor but there were times when the students had to be taken to classrooms. Trainees were taught certain specific performance tasks as well. They were expected to perform these tasks to the required standard. The training course was conducted in one factory and all participants were invited to that factory. There were six participants per factory including three front line supervisors.

The training was spread over three months on two mornings per week from March 2005 to May 2005. Once the training was complete the participants were allowed to get on with their normal duties. They were encouraged to implement any changes according to what they had learnt in the course in order to achieve the desired performance targets. Performance measurements were taken only after six months of training. The trainers were requested to supervise the participants and provide assistance wherever possible during the post training six-month period.

Data Collection:

The data related to the results of training given to the relevant employees.

The data was collected week by week from each factory in identified production lines (e.g., 1 to 4 in most cases). These are the lines that these middle management cadres were allocated to supervise in addition to their normal activity. Data forms were provided to an executive who wrote the weekly averages in the sheet to be handed over to the researcher. Wherever possible this function was supervised from time to time. Tables 35 to 52 provide the data of KPIs mentioned above in three identified companies.

Table35: Efficiency % of Factory 1. December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
1	44	55	40	39
2	38	49	49	46
3	42	50	53	50
4	49	45	56	53
5	53	54	57	45
6	52	42	47	42
7	49	48	44	51
8	32	39	40	50
9	47	33	38	48
10	49	48	43	44
11	55	51	55	46
12	60	55	50	57
Total	570	569	572	571
Ave.	47.5	47.4	47.6	47.5

Source: Data of experiment 1

Table 36: Efficiency % of Factory 2. December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
1	46	43	52	50
2	50	52	49	42
3	53	47	44	41
4	49	50	39	48
5	44	38	46	52
6	34	48	50	49
7	42	53	49	54
8	46	52	55	48
9	48	50	48	46
10	55	52	33	39
11	58	42	46	40
12	40	38	48	44
Total	565	565	559	553
Ave.	47.1	47.1	46.6	46.1

Source: Data of experiment 1

Table 37: Efficiency % of Factory 3 December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
1	45	50	53	46
2	48	49	40	44
3	55	51	48	49
4	50	53	52	44
5	49	46	49	49
6	48	50	51	47
7	39	44	46	52
8	41	56	50	48
9	44	46	39	40
10	55	45	52	42
11	50	38	44	50
12	52	43	48	51
Total	576	571	572	562
Ave.	48.0	47.6	47.7	46.8

Source: Data of experiment 1

Table 38: Average Lost Time (min) of Factory 1 December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
1	45	40	62	41
2	67	64	70	54
3	82	60	41	44
4	41	48	46	62
5	55	63	54	69
6	40	48	47	44
7	62	47	42	62
8	55	54	49	47
9	84	70	49	54

10	78	70	65	68
11	50	52	65	40
12	60	58	59	40
Total	719	674	649	625
Ave.	59.9	56.2	54.1	52.1

Source: Data of experiment 1

Table 39: Average Lost Time (min) of Factory 2 December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
1	52	64	78	62
2	67	59	61	69
3	35	61	70	74
4	41	65	70	44
5	70	72	65	82
6	46	48	49	51
7	65	56	55	60
8	40	63	61	36
9	81	78	61	75
10	56	48	47	39
11	39	61	45	42
12	41	43	45	47
Total	633	718	707	681
Ave.	52.8	59.8	58.9	56.8

Source: Data of experiment 1

Table 40: Average Lost Time (min) of Factory 3 December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
1	40	38	42	45
2	78	81	75	62
3	40	48	52	63
4	63	49	55	60
5	71	39	65	61
6	43	60	48	45
7	72	72	66	42
8	43	41	60	69
9	82	62	55	69
10	68	71	75	77
11	45	61	63	55
12	60	62	61	59
Total	705	684	717	707
Ave:	58.8	57.0	59.8	56.9

Source: Data of experiment 1

Table 41: Ave. Cost per Min (US cents) of Factory 1 December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
2	10	11	9	10
4	11	12	11	12
6	12	14	11	14
8	11	13	11	12
10	12	11	9	10
12	10	11	10	10
Ave.	11.0	12.0	10.2	11.3

Source: Data of experiment 1

Table 42: Ave. Cost per Min (US cents) of Factory 2 December 05 to February 06

Weeks	Line 1	Line 2	Line 3	Line 4
2	12	11	12	10
4	10	11	9	10
6	10	11	10	13
8	11	11	10	10
10	11	12	11	12
12	9	11	12	14
Ave.	10.5	11.2	10.7	11.5

Source: Data of experiment 1

Table 43: Ave. Cost per Min (US cents) of Factory 3 December 2005 to February 2006

Weeks	Line 1	Line 2	Line 3	Line 4
2	9	8	10	11
4	11	11	12	12
6	12	11	12	11
8	9	10	8	10
10	10	11	12	10
12	10	9	10	11
Ave.	10.2	10.0	10.7	10.8

Source: Data of experiment 1

Table 44: Absenteeism % of Factory 1 December 2005 to February 2006

Weeks	Line 1	Line 2	Line 3	Line 4
1	6.0	7.5	6.1	7.0
2	7.1	2.5	3.0	4.5
3	6.2	4.5	4.5	4.6
4	4.1	6.5	6.0	7.1
5	5.5	6.2	7.2	4.5
6	6.2	7.0	6.5	6.1
7	6.1	6.5	6.9	6.8
8	7.1	7.8	6.5	4.1
9	5.1	6.5	7.2	4.9
10	4.1	4.0	6.5	5.1
11	7.4	4.8	5.2	4.3
12	7.0	6.5	2.9	4.1
Ave.	5.5	5.9	5.7	5.3

Source: Data of experiment 1

Table 45: Absenteeism percent of Factory 2 December 2005 to February 2006

Weeks	Line 1	Line 2	Line 3	Line 4
1	4.1	5.5	6.5	7.1
2	6.0	6.5	6.3	7.1
3	7.0	8.0	7.1	5.1
4	6.1	7.2	6.5	6.0
5	6.1	6.8	6.9	4.1
6	6.2	6.8	7.1	6.9
7	4.1	4.8	7.5	4.3
8	4.5	5.1	6.5	4.4
9	4.5	5.5	4.8	5.6
10	5.4	4.8	4.0	8.3
11	4.5	6.2	6.9	4.5
12	4.6	5.6	4.8	4.4
Ave.	5.3	6.1	6.2	5.7

Source: Data of experiment 1

Table 46: Absenteeism percent of Factory 3 December 2005 to February 2006

Weeks	Line 1	Line 2	Line3	Line 4
1	4.2	6.0	6.7	7.4
2	4.5	4.8	4.0	4.9
3	5.5	4.1	4.9	6.0
4	6.8	7.1	6.9	8.2
5	7.0	6.5	6.9	6.0
6	6.5	6.3	6.8	7.0
7	5.1	4.2	4.2	4.4
8	4.8	5.9	5.5	6.0
9	7.0	6.5	6.0	6.5
10	7.3	6.5	6.8	6.0
11	4.6	6.5	6.4	7.1
12	5.9	6.5	5.8	6.5
Ave.	5.8	5.9	5.9	6.3

Source: Data of experiment 1

Table 47: Efficiency % of Factory 1 during the month of March 2006

Weeks	Line 1	Line 2	Line 3	Line 4
1	46	50	48	48
2	54	57	55	52
3	65	62	63	62
4	68	65	68	71
Ave.	58.2	59.0	58.5	58.3

Source: Data of experiment 1

Table 48: Efficiency % of Factory 2 during the month of March 2006

Weeks	Line 1	Line 2	Line 3	Line 4
1	45	51	45	42
2	55	62	54	51
3	65	69	68	63
4	68	72	73	68
Ave.	58.3	63.5	60.0	56.0

Source: Data of experiment 1

Table 49: Efficiency % of Factory 3 during the month of March 2006

Weeks	Line 1	Line 2	Line 3	Line 4
1	38	62	55	51
2	49	70	74	48
3	65	64	68	68
4	69	68	68	70
Ave.	55.3	66.0	66.3	59.3

Source: Data of experiment 1

Table 50: Absenteeism percent of Factory 1 during the month of March 2006

Weeks	Line 1	Line 2	Line3	Line 4
1	4.0	1.8	2.5	2.9
3	1.5	1.5	1.0	1.0
4	0.5	0.4	0.2	1.0
Ave.	2.0	1.2	1.2	1.6

Source: Data of experiment 1

Table 51: Absenteeism percent of Factory 2 during the month of March 2006

Weeks	Line 1	Line 2	Line3	Line 4
1	3.5	1.5	4.1	3.8
3	0.5	0.4	2.0	0.8
4	0.5	0,2	1.1	0.6
Ave.	1.5	0.7	2.4	1.7

Source: Data of experiment 1

Table 52: Absenteeism percent of Factory 3 during the month of March 2006

Weeks	**Line 1**	**Line 2**	**Line3**	**Line 4**
1	4.0	3.5	2.8	2.5
3	2.0	1.2	1.0	1.3
4	1.0	1.0	0.8	0.5
Ave.	2.3	1.9	1.5	1.4

Source: Data of experiment 1

Performance of three factories was measured after the training. The performance indicators were efficiency, lost time, cost per minute and absenteeism. The efficiency of all three factories was not satisfactory. Lost time figures were similar in all factories but not very encouraging. The cost per minute has not shown improvement whilst absenteeism too demonstrated poor performance. Tables 47 to 52 show results obtained in March 2006 and those too not encouraging.

b. Experiment 2

The purpose of this experiment was to find out whether it was possible to enhance the technological applications so that the image of the industry too was enhanced. Innovations and value added products were used as measurements.

Sample:

An advertisement in the local newspapers called for extremely intelligent young talent preferably engineering graduates. Over 1175 CVs were received of which 350 were shortlisted. Only Engineering, Science, Finance and Textiles graduates were considered. All these trainees were called in for a competitive test comprising Mathematics and English language skills. Only 192 were present for the test. Those who scored 100 percent in Mathematics and 90 percent or more in English language were called for an interview. There were about 52 of them of which 38 attended the interview. From this 10 were selected for the programme.

Training Method:

The training method was based on theory supported by factory-based practices, projects and brain storming discussions. The trainees were encouraged to use self-learning instruments to master the task. A specific curriculum was developed on creativity and innovations in order to bring in newness and breakthrough ideas to the thought process. The curriculum included clothing manufacturing related subjects. A good overall knowledge of clothing manufacturing was given through conventional classroom sessions to the participants. Trainees were encouraged to attend seminars and workshops in order to enhance their knowledge of innovations and technology. Two trainers were allocated to these trainees.

The trainees had to familiarize themselves with the company and with the industry. They were then sent in to a classroom to learn the fundamentals of technology and manufacturing for ten weeks. They were put into the industry to learn all the processes for a period of four months with a trainer all the time at hand. Having completed this, they had their final training course in classrooms, workshops and laboratories for a period of 12 weeks. In total they had a structured training course for six months. They were allowed to spend only the mornings in the classrooms and workshops and the afternoon was spent in the factory. With close supervision, they gained a good insight into manufacturing. All of them were allowed to work for a period of one year in their respective disciplines. Each had a boss to report to. These trainees were given responsibility and offered junior managerial positions. They were encouraged to come up with innovative product developments. They were evaluated after one year of work on two counts: technical tasks and natural skills. There were 10 questions each carrying 10 marks. Trainees' performance was measured with a score out of 100.

The training period was six months on a full time basis from June 2004 to August 2004, and January 2005 to March 2005. They were given an industry training stint from September 2004 to December 2004. Continuous assessment in terms of presentations was carried out during their training period.

Data Collection:

Table 53: Trainees academic & professional qualifications and selection test scores

Trainee	Degree	Professional	Specialization	Test scores %
A	BSc Eng	CIMA	Bottoms	90
B	BSc (Science)	ACA(part)	Intimates	92
C	BSc(Science)	CIMA, CIM	Bottoms	92
D	BSc Eng.	CIMA	Bottoms	94
E	BSc Eng	CIMA	Blouses	94
F	BSc Eng	CIMA (part)	Blouses	94
G	BSc (Science)	CIMA	Blouses	92
H	BSc Eng	CIM	Intimates	90
I	BSc (Science)	BCS	Intimates	92
J	BSc Eng	CIM, BCS	Bottoms	95

Source: Data of experiment 2

Table 54: Technical & Natural Skill Capability of Intellectually inclined Trainees

Properties	A	B	C	D	E	F	G	H	I	J
Have you taken a lead role in problem solving?	8	6	7	6	0	7	8	5	6	2
What is the most interesting technical problem solved?	7	0	6	0	6	7	7	8	5	6
Have you designed any new item?	6	4	6	4	3	3	2	4	2	3
Have you identified any technological applications	5	3	2	3	2	3	3	2	4	2
Have you been involved in the production process?	8	3	6	5	5	7	6	7	6	5
Natural skills: How confident are you on the job?	9	8	8	8	7	8	8	7	8	7
Have you demonstrated leadership?	8	8	2	8	4	8	7	2	5	4
Are you happy, motivated?	8	8	2	8	8	6	8	2	5	8
Will you be given more responsibility in the future?	8	8	5	7	7	7	7	3	6	7
Would you change your job?	8	5	3	8	8	6	7	3	6	8
Total %	75	53	47	57	50	62	63	43	53	52

Source: Data of experiment 2

There were three mentors/bosses for this batch of trainees. They made an evaluation based on the following questions of every one of them.

1. How good are they in co-operating, interest in work and attitude towards colleagues?
2. How capable are they of delivering the task?
3. Will they be able to perform as top class technical experts in the future?
4. Are they self-motivated?
5. Are they keen to learn? Attend regular workshops, seminars etc.
6. Have they imparted their skills to others?
7. Have they undertaken a substantial technical project on their own?
8. Have they had often interactions with senior technical staff?
9. Have they demonstrated ownership and leadership?
10. Will they be capable of making a change for the better?

Table 55: Mentors' observations on the intellectually inclined trainees

Questions	A	B	C	D	E	F	G	H	I	J
1	6	2	4	5	4	5	5	2	3	2
2	6	2	2	4	2	4	2	0	2	2
3	5	0	2	2	0	2	0	0	2	2
4	8	5	4	4	4	6	5	2	4	5
5	6	0	2	0	0	2	3	0	0	2
6	5	0	0	2	0	2	4	0	0	0
7	6	0	2	2	2	2	2	0	2	0
8	6	4	2	4	2	4	4	2	2	2
9	6	3	2	4	3	4	6	2	2	3
10	6	0	2	3	0	2	2	0	3	2
Total %	60	16	22	30	17	33	33	08	20	20

Source: Data of experiment 2

Table 53 provides information about the profile of each trainee in the programme. Table 54 shows how each of them fared during their post-training period. This was a self-evaluation. The bosses evaluated each of them on a 10-point questionnaire and marked out of hundred percent. Their performance is recorded in Table 55.

The purpose of this experiment was to find out the capability of a training method that is implemented on to a batch of intellectual young trainees to whom technological skills have been imparted. Except one trainee the rest did not show good performance after skills have been imparted (Tables 54 & 55). Trainees were expected to bring in innovative ideas and step up the image of the factory so that they could attract better buyers and good prices for their merchandise.

c. Experiment 3

The Questionnaires revealed that there is a need to be competitive to sustain global market share. In this context, it would be necessary to experiment how the existing cadres could be trained to face competitiveness. The company must be elevated to the next level so that the business could continue. New products must be introduced, new methods must be implemented, cost of production must be reduced, defects rate must be at zero level, HR

indicators must be improved, etc. Therefore, key executives of the manufacturing areas were selected from five companies across the industry. It was felt that these executives should be able to make a change after being trained.

Sample:

The first step was to select at random five factories consisting of one small, two medium and two large factories. Factory 1 was the small factory, 2 and 3 were the medium factories, and 4 and 5 were large factories. A small factory is one with 150 or fewer sewing machines; a medium factory has between 150 to 300 machines while any factory with more than 300 machines is large. Factories 1 to 3 manufacture knitted garments while the rest make woven garments. All factories are in Western province. The companies were requested to select four key executives for training. Every candidate was also interviewed by the researcher to establish their suitability.

Training method:

Training was given to individuals and the training accent was on benchmarking. It means identifying a certain task and encouraging the trainee to perform and then comparing his/her performance with the required standard.

The trainer visited the factory at regular intervals (once a fortnight) and imparted skills and knowledge on production related problems to individual trainees in each factory. The trainer noted if there were any deficiencies and gaps (training needs) of the trainee. This was done by comparing what has been done against the standard (benchmarking). These formed the trainee's gaps. Then every quarter a workshop was held to discuss each individual's gaps and training was given to overcome the gaps. Finally, the trainer prepared an action plan for the trainees.

Every two weeks one cycle of visits was completed by the trainer to all five factories. Therefore, every eight weeks the trainer completed four visits to each factory. Following this, a training workshop was held for all the trainees.

The training period was of one year's duration from August 2004 to July 2005 and August 2005 to January 2006. Training was conducted by experienced industry personnel. After successful completion of training, participants were required to improve the KPIs. The trainers visited these five factories during this period from time to time to assist the trainees in

their effort to improve performance. The training was meant to impart technical skills on production to those experienced executives.

There were a few classroom sessions, a number of case studies and interactions, individual projects of short duration (e.g., improving efficiency by a ten point percentage and sustaining it for a period of four weeks), problem solving, etc. At the end of the training, participants were subjected to a test. Then they were allowed to operate on their own. A specific set of KPIs were measured after a period of six months. The KPIs were: total standard hours earned, total hours worked, efficiency of sewing machine operators, absenteeism percent, labour turnover percent, fabric utilization per cent, average defects per cent in–process, and defects per cent at the end line. Measurements were taken from February 2006. Measurements were avoided during the month of April due to statutory holidays observed on account of Sinhala and Tamil New year.

Data Collection:

The data of the KPIs was recorded and collected at the end of the week. A responsible executive was appointed for every company to collate data and pass it on to the researcher every week.

Tables 56 to 64.1 give the data collected for every factory during the months of February/March and May/June of 2006. Tables 57.1, 59.1, 60.1, 63.1 and 64.1 are the data from May/June period. The KPIs are listed in the first column of the Tables.

Table 56: Data of KPIs of Factory 1 from February to March 2006

KPIs	Feb wk1	Week 2	Week 3	Mach wk 1	Week 2	Week 3	Week 4
Std.hours earned	3474.4	3815.2	4061.1	3779.3	2802	3123.1	2331.3
Total hours worked	6401	6419	6850	6191	5312	5237	5059
Efficiency of SMOs %	57.6	56.3	58.1	58.1	51.6	50.6	44.6
Absenteeism %	12.1	8.8	12.7	12.6	12.6	11.5	9.1
Labour Turnover %	--	1.8	0	1.0	1.0	1.27	3.0
Fabric Utilization	89.0	86.0	91.0	87.0	83.0	83.7	82.3
Ave.Defects in line %	10.3	8.3	7.4	7.1	7.2	6.8	7.4
Ave.Defects End line %	5.1	5.1	4.0	4.5	3.2	4.0	4.1

Source: Data of experiment 3

Table 57.1: Data of KPIs of Factory 1 from May to June 2006

KPIs	May Wk 1	Week 2	Week 3	Week 4	June Wk 1	Week 2	Week 3
Std.hours earned	2214	1457	2922	2999	2789	3143	2659
Total hours worked	4628	2820	5307	5888	5741	5676	5120
Efficiency of SMOs %	46	49	52	49	46	57	49
Absenteeism %	15	7.7	18.2	10.2	11.5	13.5	16.6
Labour Turnover %	--	4.1	--	2.0	--	--	--
Fabric Utilization	86.0	84.1	83.8	86.7	86.5	84.2	87.6
Ave.Defects in line %	10.3	11.6	9.3	10.2	10.1	10.2	7.8
Ave.Defects end of line%	4.2	4.0	4.0	3.5	4.5	5.0	4.3

Source: Data of experiment 3

Table 58: Data of KPIs of Factory 2 from February to March 2006

KPIs	Feb Wk 1	Week 2	Week 3	Mach Wk 1	Week 2	Week 3	Week 4
Std. hours earned	3813	4619	4034	3410	1602	3243	4485
Total hours worked	8893	8785	9089	9960	7318	7344	8249
Efficiency of SMOs %	41	51	42	34	20	42	52
Absenteeism %	5.3	4.7	4.0	5.2	7.8	7.5	4.9
Labour Turnover %	5.4	1.5	--	1.2	--	1.5	6.1
Fabric Utilization %	89	90	90	85.6	86.2	89.8	88.7
Ave.Defects in line %	Not	available					
Ave.Defects end line %	--	6.9	7.1	8.9	9.7	9.8	6.9

Source: Data of experiment 3

Table 59.1: Data of KPIs of Factory 2 from May to June 2006

KPIs	May Wk 1	Week 2	Week 3	Week 4	June Wk 1	Week 2	Week 3
Std.hours earned	3406	2436	4499	4919	4901	4618	5484
Total hours worked	8932	7850	10234	9869	10492	11333	11717
Efficiency of SMOs	35	28	41	47	44	38	44
Absenteeism %	6.1	7.7	6.9	4.3	4.5	5.7	3.6
Labour turnover %	--	2.4	1.4	--	--	--	--
Fabric Utilization	88	84	90	87	84	86	82
Ave.Defects End line %	9.5	7.8	8.0	8.2	8.0	10.0	11.8

Source: Data of experiment 3

Table 60: Data of KPIs of Factory 3 from February to March 2006

KPIs	Feb Wk 1	Week 2	Week 3	Mach Wk 1	Week 2	Week 3	Week 4
Std.hours earned	--	5572	5765	6074	4968	7066	4119
Total hours worked	--	11500	11711	10652	9075	12863	7831
Efficiency of SMOs	--	61	51	56	52	52	50
Absenteeism %	--	4.4	3.7	3.3	4.8	3.6	2.9
Labour turnover %	--	--	--	--	--	--	--
Fabric Utilization	--	80	80	80	80	80	82
Ave.Defects in line %	--	5.0	6.8	5.8	5.9	4.9	4.0
Ave.Defects end of line%	--	9.1	7.5	4.5	2.9	2.9	2.1

Source: Data of experiment 3

Table 60.1: Data of KPIs of Factory 3 from May to June 2006

KPIs	May Wk 1	Week 2	Week 3	Week 4	June Wk 1	Week 2	Week 3
Std.hours earned	4259	2814	4895	3436	3124	5068	5233
Total hours worked	11179	8154	13320	12048	11958	11218	11214
Efficiency of SMOs	35	31	33	26	23	42	44
Absenteeism %	7.0	4.6	11.5	5.1	4.6	8.7	7.9
Labour turnover %	--	--	1.2	--	--	1.0	1.0
Fabric Utilization %	79	80	80	76	77	80	74
Ave.Defects in line %	5.4	5.2	4.4	3.8	7.0	8.0	12.4
Ave. Defects end of line%	4.3	3.2	3.3	4.5	5.4	4.7	10.1

Source: Data of experiment 3

Table 62: Data of KPIs of Factory 4 from February to March 2006

KPIs	Feb Wk 1	Week 2	Week 3	Mach Wk 1	Week 2	Week 3	Week 4
Std.hours earned	15400	8281	8087	7302	4012	6079	3062
Total hours worked	31162	16649	16438	14360	8422	14946	8120
Efficiency of SMOs %	48	47	45	48	47	38	35
Absenteeism %	4.9	11	10.6	5.3	20	8	12.5
Labour turnover %	3.3	3.3	3.4	4.6	4.5	4.3	4.5
Fabric Utilization	85	85	86	81	83	83	83
Ave.Defects in line %	3.9	4.2	4.5	4.9	4.6	6.5	7.9
Ave.Defects end of line%	2.0	1.0	1.5	2.0	1.5	1.8	5.2

Source: Data of experiment 3

Table 63.1: Data of KPIs of Factory 4 from May to June 2006

KPIs	May Wk 1	Week 2	Week 3	Week 4	June Wk 1	Week 2	Week 3
Std.hours earned	3597	5490	6177	6379	6433	6501	6946
Total hours worked	11279	12122	16050	17226	14994	15005	15610
Efficiency of SMOs %	30	43	35	35	40	41	41
Absenteeism %	5.1	5.7	5.1	5.1	5.6	5.1	5.0
Labour Turnover %	12	11.9	12.1	11.8	10.6	10.1	9.6
Fabric Utilization	84	82	86	84	84	83	83
Ave.Defects in line %	7.5	7.9	8.0	6.2	5.6	5.9	6.1
Ave.Defects end of line%	5.6	5.5	5.4	5.0	7.6	4.4	4.1

Source: Data of experiment 3

Table 64: Data of KPIs of Factory 5 from February to March 2006

KPIs	Feb Wk 1	Week 2	Week 3	Mach Wk 1	Week 2	Week 3	Week 4
Std.hours earned	11953	9691	11318	11337	14052	13321	9940
Total hours worked	30773	30660	30200	29520	31600	32179	27696
Efficiency of SMOs%	37	30	34	35	41	38	34
Absenteeism %	9	10	8	13	12	9	8.9
Labour Turnover %	--	--	3.5	--	1.5	5.8	--
Fabric Utilization	88	74	90	--	--	--	--
Ave.Defects in line %	12.1	15.3	11.6	14.3	8.8	20.3	15.9
Ave.Defects end of line%	13.5	13.5	10.6	6.0	5.8	17.1	12.6

Source: Data of experiment 3

Table 64.1: Data of KPIs of Factory 5 from May to June 2006

KPIs	May Wk 1	Week 2	Week 3	Week 4	June Wk 1	Week 2	Week 3
Std.hours earned	14727	8842	15911	9099	8657	8235	11241
Total hours worked	31020	19589	33544	28896	25881	25801	28035
Efficiency of SMOs %	44.5	43.1	44.4	28.5	30.0	28.0	37.0
Absenteeism %	17.8	14.8	17.6	12.8	9.9	13.7	9.9
Labour Turnover %	1.2	1.0	7.7	2.5	3.5	1.9	3.5
Fabric Utilization	--	--	45.8	45.2	44.3	--	42.4
Ave.Defects in line %	17.9	16.7	--	--	19.3	15.3	9.9
Ave.Defects end of line%	9.8	17.8	--	--	12.4	14.7	10.7

Source: Data of experiment 3

This experiment evaluated the possibility of a training method to make a factory competitive. Training was given to individuals and expected the training delivery to enhance the skills of them. Training is expected to improve selected performance indicators of five factories. The results of the experiment are displayed in Tables 56 to 64. Performances were recorded during a period of fourteen weeks broken into two seven week periods (nearly four months). This was done to see whether the participants could perform better after the first evaluation (first seven weeks). Results show poor performance from all five factories.

d. Experiment 4

The production in the clothing industries is dependant on operators and supervisors. After all, it is they who produce the garments. In this context, if supervisors can be taught how to handle the operators with dignity perhaps operators might respond better because they feel they are being respected. The emphasis here is on soft skills for supervisors. Therefore, a training course was developed for supervisors in this regard.

Sample:

The sample of supervisors was selected from a large factory. Nearly 750 supervisors viewed this DVD and trained. For this experiment, only five large companies in the group were considered. Each factory had over 600 sewing machines. Each factory produced similar products. All supervisors in each factory were shown the DVD and sometimes it was played more than once.

Training method:

The training was on a new platform. The training was unconventional. There was no formal teaching. The learning was based on seeing an actual problem in a factory and a solution to the problem was also shown in a practical way as if it is a real situation.

An employee satisfaction survey revealed a number of concerns of machine operators. A supervisors' meeting was called to discuss their concerns. Nine common problems and concerns of operators that needed to be attended to were selected. These problems were presented to about 45 leading supervisors of the company concerned and each one of the concerns/ problems was discussed. A panel of experts was also available to share their views. The supervisors and senior executives together suggested solutions for most concerns. Further, to depict the problem, a skit was presented to the audience and then all parties were asked to respond. The entire episode was filmed in DVD format. This DVD was sent across to the factories to use for supervisor training. It contained solutions to most common problems in the form of a dialogue cum drama. This format is new to Sri Lanka and holds the audience spellbound. It is basically human resource management and how to motivate and get work out of subordinates. The DVD was played from December 2006 to March 2007 in selected factories. After playing the DVD, the chief instructor conducted a discussion with the participants on the areas that were touched upon. Then a question was given to the participants to respond to later. Supervisors were very pleased. Efficiency and HR indicators were measured from October 2007 onwards some six months after training.

Data Collection:

Efficiency and HR initiatives were taken weekly for a period of three months. A person was detailed to identify the figures. Tables 65 to 67 provide data on KPIs in five factories under

consideration. The KPIs are efficiency per cent, absenteeism per cent and labour turnover per cent.

Table 65: Efficiency % of selected factories after HR training

Factory	Oct Wk1	Wk 2	Wk 3	Wk 4	Nov Wk1	Nov 2	Nov 3	Nov 4	Nov 5	Dec 1	Dec 2	Dec 3
1	58	56	66	53	57	52	48	51	60	49	55	51
2	54	43	46	39	56	52	57	51	54	47	50	52
3	45	49	51	47	46	53	50	42	46	49	52	48
4	55	41	44	49	43	50	43	48	45	54	53	50
5	43	42	47	42	50	51	57	58	63	54	54	51

Source: Data of experiment 4

Table 66: Absenteeism % of sewing operators of selected factories after HR training

Factory	Oct Wk1	Wk 2	Wk 3	Wk 4	Nov Wk1	Nov 2	Nov 3	Nov 4	Nov 5	Dec 1	Dec 2	Dec 3
1	6.5	4.6	6.2	3.6	7.3	5.8	4.2	5.9	4.6	5.6	3.8	3.4
2	5.6	3.2	4.8	3.7	3.9	5.3	5.8	4.9	5.5	5.4	3.2	4.5
3	5.8	4.7	3.3	3.8	4.6	5.4	5.3	3.9	4.3	4.6	3.4	5.2
4	5.6	5.8	4.9	3.5	5.3	3.2	5.7	3.4	2.2	5.6	3.5	4.2
5	5.7	4.5	3.2	3.7	4.9	5.0	5.4	3.8	5.0	5.3	5.1	3.4

Source: Data of experiment 4

Table 67: Labour Turnover % of sewing operators of selected factories after HR training

Factory	Oct Wk1	Wk 2	Wk 3	Wk 4	Nov Wk1	Nov 2	Nov 3	Nov 4	Nov 5	Dec 1	Dec 2	Dec 3
1	1.1	1.0	2.4	0	2.3	0	1.5	0	0	1.1	1.3	1.4
2	2.3	1.7	1.2	2.8	3.4	1.6	1.0	2.1	2.6	1.3	1.7	2.2

3	0	0	1.3	1.1	0	2.8	1.0	2.5	1.6	1.7	1.0	2.1
4	1.8	1.0	0	1.0	0	2.4	1.3	1.2	1.5	1.0	2.0	1.4
5	2.8	1.1	2.3	1.0	2.0	0	1.7	2.4	1.3	2.0	3.4	2.5

Source: Data of experiment 4

Efficiency, absenteeism and labour turn over are key performance indicators in the clothing industry. These indicators must be improved to achieve low cost of production. With this in background a training method was developed to impart skills required to overcome the challenges of efficiency, absenteeism and labour turnover. The training was aimed at supervisors because they are the drivers of production. They manage production. They interact directly with the machine operators. In these circumstances supervisors should be able to drive the KPIs hence training was imparted on them. The results are in Tables 65 to 67. Here again the results are disappointing except some improvement in labour turnover.

e. Experiment 5

This training was focused on a specific need, namely, productivity improvement. At the outset, it was felt that a course could be run for a purpose where operators and supervisors both have one outcome from it - productivity. This makes both parties work for a common cause. They were both trained to improve productivity. This was the key purpose of this training course.

Sample:

Five factories from one conglomerate were selected. This company is one of the largest in Sri Lanka. Each factory had no product mix and they were state of the art factories. Each factory had more than 600 machines. These factories are from the Western and Sabaragamuwa provinces.

Training method:

The factories considered for the study are large outfits with not less than 600 sewing machines per unit. Five factories were selected from a wide geographical spectrum. Each factory specialized in a product and therefore there was no product mix within each company. However, there was style variation per product in each of the factories. All factories were of a similar standard because they all belonged to one conglomerate.

Participants for training were selected mainly from the supervisory cadre. However, a few middle management cadres of executives were also considered for certain training courses. Machine operators were also included in the training programme. The trainees were selected at random to represent each job category.

Each of the training courses for machine operators and for supervisors was developed according to the demand of the industry. Every training programme had a purpose and a requirement. In most cases, it was productivity improvement and cost per minute. The curriculum was the key of the course and was developed to meet industry demands. The training for sewing machine operators was interactive and participative. Their curriculum covered important aspects of the industry and the facts were put across in the context of patriotism. Supervisor training was done by introducing success models of efficiency improvement.

The training delivery was administered in a conducive environment. All required training material and facilities were provided. Qualified trainers were used in the courses. There were both classroom and onsite training.

Data Collection:

Two different types of training courses were conducted for operators and supervisors. This was during the months of August and September 2007. The outcome was productivity. This was measured using the ratio of earned SAH (earned minutes) to working hours of every company during the month of November. Tables 68 and 69 give productivity and cost per minute data in five factories after the training course.

Table 68 Productivity measure of selected factories

Factory	Earned SAH	Working Hrs	Earned SAH	Working Hrs	Earned SAH	Working Hrs
	Week 1	Wk 1	Week 2	Wk 2	Week 3	Wk3
1	19290	32150	17820	28670	15660	30280
2	16820	35640	18414	29250	17632	28780
3	16780	27965	19052	28436	17095	28568
4	18430	30214	16755	28945	17276	28790
5	18954	31658	17870	26380	17920	27368

Source: Data of experiment 5

Table 69: Cost per minute values of the factories after training

Factory	CPM Week 1	CPM Week 2	CPM Week 3
1	7.8	7.1	7.6
2	8.2	7.6	7.8
3	7.2	7.9	8.0
4	8.5	7.2	8.7
5	7.1	7.9	7.6

Source: Data of experiment 5

This experiment was aimed at a specific outcome of training, productivity. All participants were informed of the purpose of the training. Training was imparted to operators and supervisors who are in five factories. Results were obtained over a period of three weeks. Productivity is expressed as a ratio using earned minutes over working hours. When compute these figures, it is evident that productivity has not improved. Similarly the cost per minute (CPM) is also high as shown in Table 69. Therefore, there is not much of significance shown from training.

4. Attrition

An attrition test was conducted on all supervisory cadres who came on the training. The following are the results obtained from the test.

Total supervisors in the study	688
Supervisors who have served for more than 3 years	60%
Supervisors with GCE (AL) qualifications	51%
Supervisors trained on the job	50%

A total of 14 factories were subjected to this test to understand the attrition of supervisors. Supervisors who served more than five years and three years were studied. Their qualifications were also recorded. This is to understand whether there is any connection to education on attrition.

5. Data Analysis

The analysis of data of research questions and experiments follows. All data and information are analyzed and summarized in order to interpret the results. It follows the same sequence as in the previous section on data collection.

i. Research Questionnaire 1

This questionnaire was administered to understand the status quo of the industry, at the very outset of the research.

Only 40 percent of the companies responded to the questionnaire in spite of continuous effort to obtain more responses from the industry. The responses received revealed that there was a definite severe competition and that the industry was not ready for the removal of MFA and protectionist measures. The main element of the competition is the price received for orders. The final analysis of the data is in Table 29.

Pre-empirical test: A pre-empirical test was carried out for all shop floor employees of a large conglomerate dealing with clothing and textiles. Its purpose was to understand the concerns of the employees and if these concerns could be resolved so that better performance from the shop floor could be achieved. Questionnaires were administered to 12 satellite business units

of the conglomerate to understand their concerns and satisfaction levels. The answers to the questionnaire were expressed in terms of a five-point scale, 1 being slightly agreed and 5 being strongly agreed. All levels of employees did not show their satisfaction levels to the levels expected by management. Hence, there are concerns that need attention (Table 30). They were addressed through a training course from which better performance was expected because of a contented workforce. The results obtained from the test were not very satisfying. The average efficiency of the 12 factories after the training was only forty nine percent and the maximum range had 55.4 points whilst the lowest had 18.9 points, showing a large variation in the results (Table 31). The average efficiency of the same factories before the training was 49.1 and therefore, there was no improvement (Table 33). The other KPIs such as cost per minute (CPM), labour turnover (LTO) and absenteeism also showed disappointing results, CPM being 11.1 US cents, LTO at 4.75 percent, and absenteeism as 6.17 percent (Table 32). These results seem to be far more than international industry standards. It is interesting to note that the above KPIs were more or less the same even before training; CPM at 11.45 US cents and LTO at 4.76 percent and absenteeism at 6.28 percent (Table 26). The pre-empirical test showed that training was not producing results to the best satisfaction of the company management.

Figure 7: Comparison of efficiencies before & after training

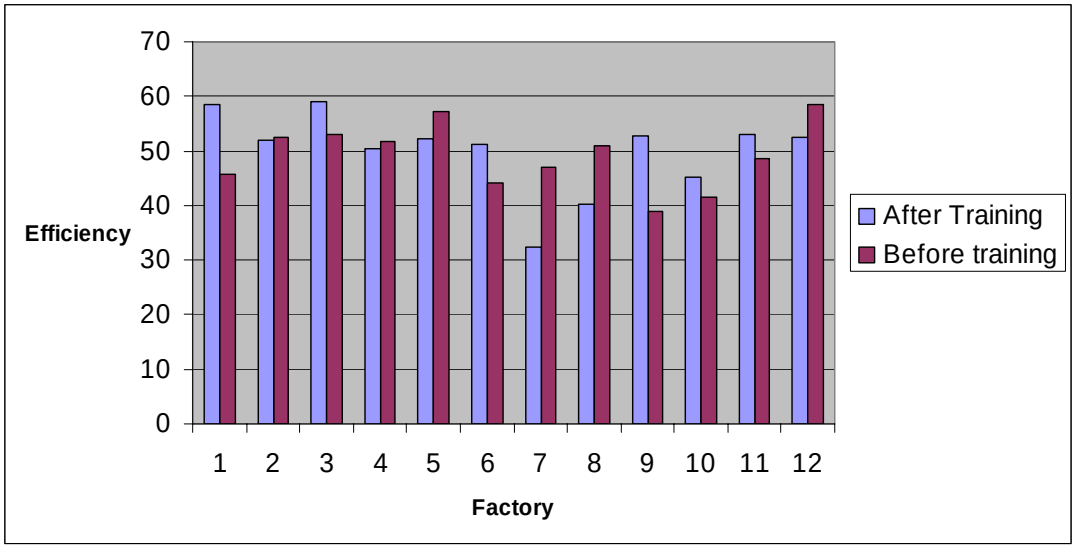
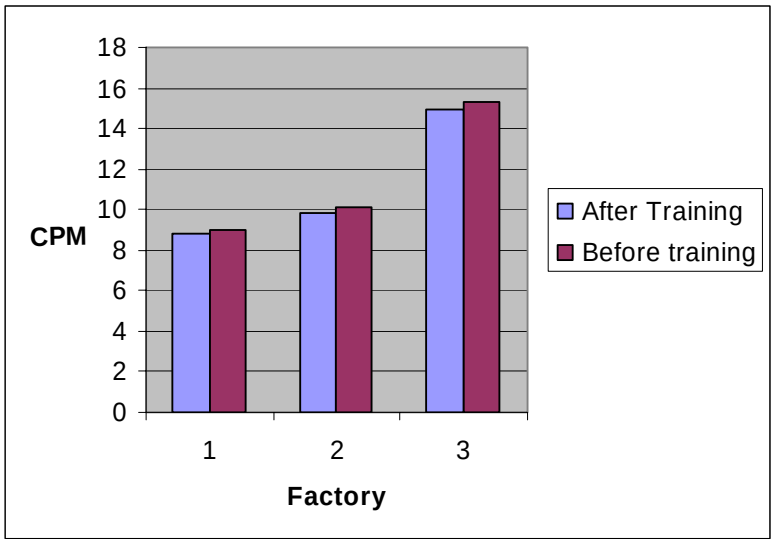


Figure 8: Comparison of CPM



Studies so far have revealed that there is price competition and efficiencies in factories are at moderate levels. Therefore, efficiencies need to be enhanced in order to bring down the cost of manufacturing to meet price competition. In order to establish a permanent improvement in efficiency, it was felt that employees must be provided with knowledge and skills about all matters concerned with production. In this context, an hypothesis was derived:

"Training method will enhance skills; thus training will be effective and will be reflected in changes in productivity. This will in turn bring down the cost of production (CPM)."

The hypothesis was tested by finding the effectiveness of training. In other words, can training improve efficiency and/or productivity which, in turn, will lower CPM? The experiments sought to test the effectiveness of training.

ii. Research Questionnaire 2

This questionnaire was administered to further confirm the status of the industry. It revealed that price would need to be addressed if global market share was to be sustained. This supported the planned training and the hypothesis.

iii. Research Questionnaire 3

Here again, as in the RQ 2, the purpose was to understand how the industry responded to training. Previous studies revealed that there was competition and training would be the mechanism to face it. Therefore, before carrying out the training experiments, a study was launched to know the interest shown in training. Only 32 percent of the factories responded to the questionnaire. 16 companies were covered in the survey.

Training delivery, acquisition of skills and implementation or performance are components of the training cycle. Interest in training also was studied under this questionnaire. All these parameters together were expected to depict an overall response to training by the industry. All companies in the study showed an average of below 50 percent response rate. Also, all individual components in the training cycle including interest in training showed an average of below 50 percent of the weighted rate (Table 43).

iv. Pre-empirical test

This was carried out prior to developing the experiments. A research questionnaire was developed and the results of it caused to set up training courses for different categories of employees. The training programmes carried out and KPI were measured after a lapse of six months. Tables 31 to 34 demonstrate the performance indicators of those factories. There was no improvement in the performance after training. This made to understand the conventional type of training would not help in improving the performance indicators. The RQ 3 too has showed poor response to training by the industry. This situation caused to develop a set of experiments on training out of the standard methods. Therefore, five different training methods were developed to study whether there is a relationship between training method and performance.

v. Training experiments

There were altogether five training experiments including a strategic training programme to find out the effectiveness of training. The data of these experiments is given in the previous section and here they are analyzed.

a. Experiment 1

The training was focused on production indicators and HR activities and they were measured during the period from December 2005 to February 2006 (Tables 36 to 46). This experiment was carried out at one large company, which runs 15 clothing manufacturing units.

The analysis of results of the experiments shows poor efficiency (Tables 70 and 71) and a significant standard deviation. This means efficiency is fluctuating. The reason for this is there is no control of production because the people concerned are not skilled in managing production. Lost time, cost per minute and absenteeism too are very poor.

Table 70: Three months Average of KPIs of three factories of 4 lines, after training (December 2005 to February 2006)

Factory	Efficiency %			Lost Time (min)	CPM (US Cents)	Absenteeism %	
		SD	CV%				Range
1	47.5	7.0	14.8	55.6	11.1	5.6	2.5 – 7.8
2	46.7	5.9	12.9	57.0	10.7	5.8	4.0 – 8.3
3	47.5	4.8	10.0	58.1	10.4	5.9	4.0 – 8.2

Source: Data analysis of experiment 1

Table 71: Average values during the month of March 2006. (More details are given in Tables 43 to 45)

Factory	Efficiency %	SD	CV%	Absenteeism %	Range
1	58.5	7.8	13.3	1.5	0.2 – 4.0
2	59.5	10.2	17.2	1.6	0.2 – 4.1
3	61.7	9.9	16.0	1.8	0.5 – 4.0

Source: Data analysis of experiment 1

b. Experiment 2

This experiment attempted to enhance the knowledge and capability of highly intellectual young science graduates so that they would be able to bring in technological applications that will also boost the image of the industry. Having received a fully-fledged training in clothing manufacturing and allowed to work independently for one year, they were evaluated on technical skills and then on aptitude, attitude, and ability to perform. In addition, their task was to build a new image for the company. Therefore, they had to bring newness to the product range, be creative and innovative and produce breakthrough ideas. These matters were evaluated by a subjective method. Except for one, the rest did not perform at all well. This experiment was carried out at one large company that runs 15 clothing manufacturing units.

The second evaluation (Table 48) revealed that most of them would not be able to perform as top class technical experts, they are committed to learning and do not impart their skills to others. However, they seem to be motivated.

c. Experiment 3

Five factories of different sizes, one small, two medium and two large factories were selected from the industry and key personnel .were given training to improve performance indicators so that the factory can be competitive. Their performance was measured over a period of four months. Standard hours earned and total hours worked for individual companies are given in Tables 49 to 53. These values can be turned into productivity figures by dividing earned minutes by working minutes. The following Tables 72 to 77 provide productivity data for all five factories.

The productivity figures in all five factories show very low figures and their standard deviation and coefficient of variation percent are also not at all satisfactory. End line defects and absenteeism are also poor (Figures 9 to 10).

Table 72: Productivity figures after training

Factory	Feb. wk1	Wk2	Wk3	March wk 1	Wk2	Wk3	Wk4	Productivity
1	0.54	0.59	0.59	0.61	0.47	0.59	0.46	Ave: 0.53
	May Wk 1	Wk 2	Wk 3	Wk 4	June Wk 1	Wk 2	Wk 3	SD:0.05
1	0.48	0.52	0.55	0.51	0.49	0.55	0.52	CV%: 9.4

Source: Data analysis of experiment 3

Table73: Productivity figures after training

Factory	Feb. 1	Wk2	Wk3	March wk 1	Wk2	Wk3	Wk4	Productivity
2	0.43	0.53	0.44	0,34	0.22	0.44	0.54	Ave: 0.40
	May Wk 1	Wk 2	Wk 3	Wk 4	June Wk 1	Wk 2	Wk 3	SD: 0.10
2	0.38	0.31	0.44	0.34	0.22	0.44	0.54	CV%:26.2

Source: Data analysis of experiment 3

Table74: Productivity figures after training

Factory	Feb. 1	Wk2	Wk3	March Wk 1	Wk2	Wk3	Wk4	Productivity
3	--	0.48	0.49	0.57	0.55	0.55	0.53	Ave: 0.44
	May Wk 1	Wk 2	Wk 3	Wk 4	June Wk 1	Wk 2	Wk 3	SD: 0.10
3	0.38	0.35	0.37	0.29	0.26	0.45	0.47	Cv%: 23.3

Source: Data analysis of experiment 3

Table 75: Productivity figures after training

Factory	Feb. 1	Wk2	Wk3	March Wk 1	Wk2	Wk3	Wk4	Productivity
4	0.49	0.50	0.49	0.51	0.48	0.41	0.38	Ave: 0.43
	May Wk 1	Wk 2	Wk 3	Wk 4	June Wk 1	Wk 2	Wk 3	SD: 0.06
4	0.32	0.45	0.38	0.37	0.43	0.43	0.44	CV%: 14.7

Source: Data analysis of experiment 3

Table 76: Productivity figures after training

Factory	Feb. 1	Wk2	Wk3	March wk 1	Wk2	Wk3	Wk4	Productivity
5	0.39	0.32	0.37	0.38	0.44	0.41	0.36	Ave: 0.39
	May Wk 1	Wk 2	Wk 3	Wk 4	June Wk 1	Wk 2	Wk 3	SD: 0.05
5	0.47	0.45	0.47	0.31	0.33	0.32	0.41	CV%:14.2

Source: Data analysis of experiment 3

Table 77: Ave. KPIs of five factories after training. Measured from February 06 to June 06

Factory	Ave. Efficiency % SD C V%	Ave.Defects % (end)	Absenteeism %
1	51.8 4.8 9.3	4.3	12.3
2	39.9 8.6 21.6	8.7	5.6
3	39.7 13.1 32.9	5.0	5.5
4	40.9 5.7 14.0	3.8	7.8
5	36.0 5.7 15.9	12.0	11.9

Source: Data analysis of experiment 3

Figure 9: Comparison of Efficiency

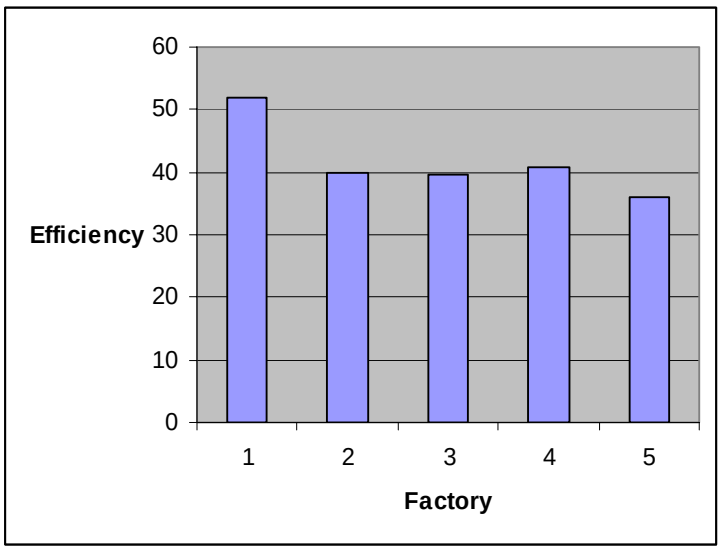
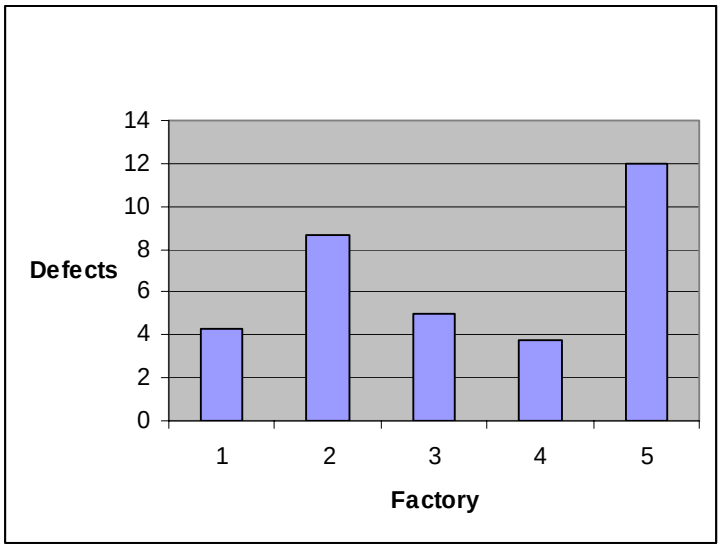


Figure 10: Comparison of Defects



d. Experiment 4

Here the training was different from the others. A CD was used to impart the knowledge to supervisors. There are nine common problems with solutions. The emphasis here is on a new way of learning. Better performance was expected after the training. Efficiency and absenteeism were addressed through this training method but there was no possibility to improve those parameters.

Table78: Average Efficiency of factories after training

FACTORY	1	2	3	4	5
Efficiency %	54.6	50.0	48.2	47.8	51.0

Source: Data analysis of experiment 4

Table79: Average absenteeism in factories after training

FACTORY	1	2	3	4	5
Absenteeism	4.6	41	4.0	3.9	4.2

Source: Data analysis of experiment 4

e. Experiment 5

A unique feature of this training was that supervisors and machine operators together aimed at the target. Both were given training in order to enhance productivity. The following Table (80) shows productivity in terms of minutes earned per working minute. The CPM values in Table 81 are also given for comparison. Here again these parameters have not shown a significant improvement.

Table 80: Productivity of the factory during the month of November 2007

Factory	Week 1	Week 2	Week 3
1	0.60	0.62	0.52
2	0.67	0.63	0.61
3	0.60	0.67	0.60
4	0.61	0.68	0.60
5	0.60	0.68	0.65

Source: Data analysis of experiment 5

Table 81: Cost per minute of factories (US cents); n=10 & nominal CPM is 5 US cents

Factory	Week 1	Week 2	Week 3	Ave. (Min)	SD	t test
1	7.8	8.1	7.6	7.8	0.97	9.15
2	8.2	7.6	7.8	7.9	1.2	7.65
3	7.2	7.9	8.0	7.7	0.87	9.81
4	8.5	7.2	7.5	7.7	0.91	9.4
5	8.1	7.9	7.6	7.9	1.14	8.1

Source: Data analysis of experiment 5

v. Attrition

The attrition test on supervisors revealed that there is no significant change in the attrition. That is attrition does not cause a problem to trained employees. Out of a total of 688 supervisors 50 percent of them have had some training and 60 percent of the total tested had served three years or more on the job. There were supervisors, totalling up to 24 percent, who have been serving more than five years in the factories.

vi. Training Evaluation

Training evaluation form is given in the appendix 3. Every trainee had to fill in the form and express his/her opinion about the training. As such, every training method captured the data to understand the quality of training delivery. The results are given in Table 82.

6. Summary

This chapter was dedicated to data collection and analysis. Data collection was broken in to two sections (i.e., data collection for questionnaires and experiments). Sample size and method of data collection have been shown for each questionnaire. In the case of experiments, sample size, training method and data collection are shown for each experiment. A short description is also given for each experiment considering the results in the tables. An attrition test was also conducted to understand whether there is drain of trained employees.

In the case of data analysis information was given under questionnaires and experiments. All data have been analyzed and in some instances SD and CV percent have been computed. A short interpretation of the results is also given for each questionnaire and experiment. The attrition rate and training evaluation were studied.

7. The Next Chapter

The next chapter (Chapter 7) provides the discussion and conclusions based on the results of the experiments. Further, it explains the reasons for such results and also compares the results with what others have done and achieved.

Chapter 7

Conclusions and Recommendations

1. Introduction

This chapter will explain the findings of the questionnaires and training experiments. The findings will provide the answers to the research question. The effect of attrition is discussed in this chapter. A new phenomenon was identified: that is post-training care administration. Whilst this is being highlighted in this chapter there is a description of training evaluation. Finally, a number of recommendations are presented.

The question whether training can impart the skills and knowledge needed to overcome the challenges of the clothing industry was examined in terms of the outcomes of training programmes in Sri Lanka. Production indicators are the most important factors for the survival of the industry and changes to these indicators can be decisive in terms of competitiveness. Training should deliver results. If results are not achieved satisfactorily, it follows that the training has not been successful.

There is a distinction between training and learning. Training is carried out for a specific purpose. Therefore, training is purposeful while this is not necessarily the case with learning. Learning can be continuous and need not aim at a target. Target means a specific need of learning. It is the broadening one's horizon and knowledge. Learning will bring one knowledge but one needs not be capable of performing a task to the best of one's ability. This is because learning is not specific like in the case of training. It is necessary to have an understanding of the difference between the two.

The focus of this research was not on learning but on training and its effectiveness. The researcher developed five different types of training methods and measured their outcomes in terms of organizational productivity and other performance measures. Most of the outcomes were production and HR-based because it was necessary to understand which training method would provide the best results in terms of outcomes. The training method involves the trainee and embraces the curriculum, duration, imparting skills, applications and training delivery. All these components together constitute a training method.

An important dimension of this research was market access, without which training is to no avail. The USA imports of clothing in value terms grew by 3.6 percent to US$73.4 billion while in volume it grew by 2.6 percent to 23,758 billion pieces in 2006. The EU market grew by 10.2 percent in value terms in 2006 (Anson, June 2007). The dominant suppliers such as Hong Kong, Korea, Mexico and Caribbean Basin Initiative (CBI) have shown a decline in their exports to these major markets.

China, Vietnam, Cambodia, Indonesia and other South Asian countries have shown a significant increase in their exports to the USA and EU markets in recent times. Therefore, there is an opportunity for Sri Lanka to grow and enhance its share in these markets. This is the fundamental reason why the Sri Lankan clothing industry must become competitive. There is an opportunity in the global market for Sri Lanka which should be capitalized in order to sustain the clothing industry.

The initial research questionnaires posited the idea that there is severe competition to sustain market share, which is dependent on price. In order to bring down the cost of manufacturing and to meet the sales price target, the industry must achieve higher efficiency and productivity. The training programmes were launched to do precisely that but the results of the experiments were not very encouraging.

2. Findings of the research questionnaires

The research questionnaires were administered to initially understand the clothing industry position and the industry response to training. Table 28 shows the response to Research Questionnaire 1 (RQ 1), which is that the clothing industry is not ready and prepared for its future challenges, with the reason being the removal of MFA thereby quota free access to market. The main obstacle identified is that the industry is finding it difficult to match sales with the rising cost of manufacturing in Sri Lanka. This mismatch can seriously harm the export clothing business in Sri Lanka.

Research Questionnaire 2 (RQ 2) confirmed that there was competition, and in particular price competitiveness. Research Questionnaire 3 (RQ 3) was concerned with training and provided information on four areas: training, training delivery, acquisition of skills, and how training has affected performance (this was presented in Table 29). However, the response to the questionnaire showed that training had little or no impact on performance. This may be attributed to poor training, which results in deficiencies in the acquisition of skills and their

application. Of the companies that responded to this questionnaire (Table 29), 65 percent were of the opinion that training delivery was not at all to their satisfaction. None of the companies that responded rated, at an average of more than 50 percent on any of the given parameters. This means that the industry view of training was not at all encouraging. It is therefore necessary to find out how effective the training is in the clothing industry.

3**. Findings of the pre-empirical test**

The findings obtained from the industry regarding training were not satisfactory. Training was ineffective. The researcher then examined this matter through a test and the results are presented in Tables 31 and 32. The results before and after the training (Tables 33 and 34) revealed that there was no significant improvement after training. Both production and HR indicators have not improved after training.

4. **Findings of the training experiments**

a. Introduction

The researcher considered the demand of the industry and developed five training courses as experiments following five different training methods. The effectiveness of each was measured in terms of the outcome of training, which was organizational productivity. The next focus was on the trainee. There were two types of trainees: those who did not have the required skills to perform a certain task and those who did not necessarily require new skills but needed to refresh and refine their skills. Both these groups were tested.

It is not possible to measure the outcome immediately after training. A certain time period must lapse before measuring the outcome and the opportunity must be given to implement what has been taught. This time period depends on the skills component of the training programme. Different training programmes cater to different skill levels and therefore the time lapse before measuring the outcome depends on the level of the skill imparted through a particular training programme. However, in all cases the outcome must be at 80 percent efficiency or its equivalent. For many years world over it is customary and now a standard that efficiency is maintained at 80 percent in production environments when it is operated under normal condition.

A curriculum course was developed from a training need and a training method was then developed. It is believed that training is successful because of the training method, otherwise

the trainee would not have gained the skills to perform. There is another aspect to this matter. If the trainee does not absorb the skills due to some fault of the trainee, it is not the fault of the training method. There might be issues with the trainers and the training methods as well. Therefore, training method, trainer and trainee are important for training to be effective.

b. Findings

The main theme of this research was concerned with how strategic training methods could improve performance.

Training Experiment 1

The outcome of the training was unexpected. There was no improvement after training. All four performance parameters showed very poor results. During the post-training sessions, it was possible to establish that due to weak management practices there were obstacles in the manufacturing process such as supply chain management, human resource management, labour turnover, absenteeism, employee attitude, machinery and methods. In short, the on-the-ground situation in the factory was not at all satisfactory.

The trained employees were pre-occupied with day-to-day affairs and they were continuously trying to find solutions to situational problems that arise during the manufacturing process. They had no time to think over what had been taught and apply it. In this experiment the training did not address the outcome (of organizational productivity) and therefore the training method was deemed ineffective. In this case training has not been effective due to bad management practices in the factory. Hence, it can be concluded that training alone cannot bring about good results.

Training Experiment 2

The training method in this experiment was based on self-learning instruments, seminars, brainstorming sessions and conventional classroom teaching. The measurement of training effectiveness was in terms of newness, creative innovation, and breakthrough ideas. A questionnaire was also used to understand how much work was done in terms of technical and natural skills.

The trainees were given all the support to meet the company's aims. Except for one candidate, all the others failed to meet and fulfil the company requirements such as improvement in

technology, bring in innovation and show an improvement in the image of companies. The trainees were supposed to be very intelligent and they confirmed that the training method used to impart the skills was good. The basic reason for their failure was the lack of post-training care. The trainees had their own agenda after training. They felt left out when they realized that their aspirations could not be met and therefore neglected their legitimate and required duties. As a result, the outcome of the training was negative. The training method alone did not provide the expected outcome. At least one important matter that emerged from this study was that trainees not only should have the necessary pre-requisites to follow a course but also they should be totally committed to achieving good results. After all, training is imparted to trainees and they should be prepared to deliver and practice what is expected of them. Post-training care activities must be implemented after training in order to achieve better and more consolidated results from training.

Training Experiment 3

Twenty executives were selected from five different factories across the clothing industry. The training method was based on benchmarking. Trainees were given a strategic task and trained to perform according to the required standards and if there were any gaps then skills were imparted to bridge them. Training effectiveness was measured through key performance indicators (KPIs): efficiency of the lines, defects percentage and HR indicators such as labour turnover and absenteeism. These all lead (supposedly) to organizational productivity.

Here again, the results were disappointing from the factories point of view. None of the participants showed a significant improvement on the KPIs. Post-training investigations revealed that the infrastructure of all the factories was appalling and poor. This meant working conditions such as lighting, ventilation and work space were not satisfactory, canteen and toilet facilities were extremely poor and inadequate basic amenities such as drinking water and rest rooms. Further, the candidates who had the training could not make any changes in the factory because the top management did not allow them to do so. The researcher interviewed all the senior managers of these factories to find out the reasons for poor performance in spite of rigorous training. Most of them said they could not delegate responsibility to the executives because they felt that they would not be able to make the change successfully. A major reason for that was that the training might not have been sufficient for these trainees to make changes.

This experiment too was not reliable because it had not been tested for faults in the training method or otherwise due to external issues beyond the control of the training method. Training was based on benchmarking. Sometimes the standard set to achieve by the trainee can be high. The magnitude of the training needs can be great because it is being benchmarked. As such, training need may be unnecessarily made to be advanced than required. Trainer from time to time continuously check whether the trainee has achieved the standard and if not impart skills to reach required standard. This method of training is not conventional and it is new to the Sri Lankan clothing industry.

Training Experiment 4

The training method adopted here was seemingly unconventional. This was video based coupled with face-to-face discussions. The focus was on supervisors and on training in soft skills. The measurement of training effectiveness was done in terms of efficiency and HR indicators.

The outcome of the training session was as follows: the average efficiency of five factories was below 55 percent while average absenteeism was over five percent. However, the labour turnover was satisfactory though the training method and failed to deliver results in other performance indicators. In order to find out the reasons for this failure, the researcher interviewed the participants. 75 percent of the supervisors attended the interview. While they felt it was a new way of imparting skills and knowledge, the snag was that it was all completely forgotten after a short time owing to their heavy workload. They went back to their old practices and thus caused poor performance. The participants were pre-occupied with routine matters and therefore unable to concentrate and make new changes.

Experiment 5

A specific task oriented training method was adopted in this experiment. The specific task was the improvement of efficiency. This was a strategic training model. The trainees were sewing machine operators and supervisors. The training method for sewing operators was in the form of face-to-face interactive participation. Patriotic feelings were infused in order to make them understand the importance of improving efficiency to save the industry from closure. The supervisors' training was different from that of operators. Supervisors grouped

themselves and came out with success models of efficiency improvement. Each model was moderated by the trainer to achieve the targeted efficiency.

The measurement of training effectiveness was in terms of productivity and cost per minute. The results were satisfactory but with room for improvement. This is the only experiment that showed some positive results from the training method. Therefore, in some instances, a suitably designed training method can lead to training effectiveness by producing good performance indicators. However, this research does not support this argument because four experiments out of five failed to prove training methods produce effective outcomes.

5. **Proposition and its significance**

The proposition initially presented is that “Suitably designed training methods lead to training effectiveness”. The objective of this research was to establish whether training could enhance the efficiency and/or productivity of the clothing industry. Therefore, carefully designed training programmes shall give a boost to efficiency or productivity. Except the last training programme (Experiment 5), the other experiments enhanced neither efficiency nor productivity. In addition, the cost per minute did not come down. Therefore, there is not enough evidence to support the hypothesis. The only time it showed a positive correlation was when training and performance were considered a strict condition in Experiment 5. There was an improvement in productivity and reduction of the cost per minute. However, these improvements were not at all satisfying in commercial terms of the business. Those figures in the Experiment 5 were only of academic interest. Therefore, it is possible to conclude that suitably designed training methods did not lead to training effectiveness in this particular situation.

Another inference that can be drawn from the above conclusion is that training method alone cannot produce effective training. There are pertinent factors that cause a negative impact on training effectiveness. Attention needs to be paid to certain training variables to deliver effective training. There are many such appropriate variables but a few were derived from the study:

1. The operating level of a factory must be at a reasonable standard in order to absorb the new changes being introduced through training. The operating level can vary according to the level of training being imparted. For example, training to adopt new

technology will not be successful if the factory is unorganized and maintains bad management practices.

2. For training methods to deliver effective training, it is necessary to introduce post-training care administration. During the post-training session, a trainee goes through a number of actions such as stress, execution difficulty, working environment, unhappiness, different aspirations, psychological problems, etc. These matters must be understood and solutions offered by the trainer for the psychological well-being of the trainee.
3. There has to be total commitment to training from the management. Training courses must be recognized, the trainees must be rewarded, implementation of change encouraged, and responsibility delegated for effectiveness of training.
4. Most trainees are pre-occupied with day-to-day affairs after returning from the course. This must be minimized and trainees must be asked to implement what they had learnt.

6. Effect of Attrition

The researcher felt it necessary to find out the phenomenon of attrition among the cadres and its impact on the production after training. Middle management being the most vulnerable sector of production and training was aimed at this sector. If the attrition rate was high then it would indicate trained staff was leaving the factory. This would mean that the employees are unhappy with the organization and it would be difficult to maintain the standard of performance. The profile of the supervisors was studied and details are given in Appendix 4.

From the data obtained, it is not possible to conclude that there is a problem of trained staff leaving the factories. The indication is that 40 percent of the supervisors do not have more than three years of service in the company but this need not affect the training outcome. However, it was not possible to know how many of that 40 percent had less than one year of service. Inquiries made from the Managers revealed that most of the employees had worked over a year in the company. Therefore, it was difficult to confirm that attrition had caused poor performance in spite of training. Out of the total tested 50 percent of them had some training and 24 percent of the total have had more than five years of service in the organization.

7. **Post-Training Care Administration**

From the research it was established that post-training care is also an important aspect of training. It is not just follow-up work but is meant to check how workers are performing after training. Post-training care administration requires discussing with the trainee as to how s/he is performing and what assistance is required to improve the present situation. Further, discussions are conducted on how the performance levels could be improved. It is a personal relationship that is built up with the trainee and maintained until s/he gains full confidence in the work.

8. **Training Evaluation**

Training evaluation is aimed at examining training delivery. It focuses on the learning aspect of training (Bernthal, 1995). One needs to know whether the desired skills and knowledge have been achieved through training. Training affects what one does, how one thinks, and how one feels (Kraiger, 1993). Here, the researcher used the Gudenas (2003) measurement to determine the success of the training method. The evaluation was based on the following questions.

1. What do the trainees think of their training? The trainee's reaction to the training course.
2. How much have the trainees learned? How proficient are they?
3. Have the learned skills been transferred to the job? Skills transfer.
4. Has the training caused improvements in company goals? Organizational results.
5. Are there any variables that affect the training course? Effect of external factors.

At the time of recording the outcomes of training, the above questions were asked and information recorded. Everybody who followed the course was given this questionnaire and each participant's score was recorded against the course. This assisted in understanding how effective each course was for each participant.

The Training Evaluation Questionnaire is given in Appendix 3. Every course was evaluated under the following headings and a final score was computed. The headings are trainee's reaction, acquisition of skills, transfer of skills, organizational results and effect of variables. Different levels of employees took part in different experiments. There were different scores for participants per experiment, which means that they felt differently as a group.

Table 82 Training Evaluation Scores

Experiment	1	2	3	4	5
Preference Score %	58	72	66	58	58

Source: Training programme evaluation sheet

The scores in the above Table show the effectiveness of the training programme and most of them showed satisfactory preference score. This means participants were happy with the training but when the outcomes were measured there were no promising results. Finally, participants have confirmed that training was satisfactory and there had been no significant attrition among the trained staff but the effectiveness of training by way of improved performance is not to be seen.

9. **Recommendations**

It may be necessary to identify a proper measurement for training effectiveness. In the present study, it is measured as the outcome or the performance. This needs clarification. Perhaps, there may be a better measurement, which might have closer links to training effectiveness. Outcome may not be the only measurement to study training effectiveness. There can be a host of factors that would determine the training effectiveness.

Further research should investigate the relationship between productivity and training effectiveness in the context of the level of the enterprise dynamic. The literature available tends to support the notion that factories that have a high level of productivity have a characteristic term high enterprise dynamic (very active). However, it may be necessary to study what fundamental change must be done in the export clothing business to improve productivity.

Further investigation is needed to find out whether training is really required for all levels in the industry and if so at what level/s? This type of study becomes important because huge investments on training are expended to expect reasonable profit. In other word, what category of employees are most useful among the shop floor workers and what would be the most effective training in order to have competitive advantage over others. In this context it may be necessary to find out whether the situation would change for different type of industries.

The present study did not categorize the training methods but instead used a combination of methods. All five experiments were different to each other in the current research. If training methods can be re-defined (in the present context it is described by the researcher as training cycle) on a certain basis and then the methods grouped, training effectiveness can be studied for different groups and comparisons made.

Examined how the skills are required to maintain a certain level of efficiency in the factory and this relationship between training and outcome should be further investigated. The present study was similar but the current studies had been focused on training. For different types of outcomes what type of skills are required may be investigated. In this case, categorise type of outcomes or KPIs. For example; production related, human resources based, quality management, corporate social responsibility/welfare related etc.

The current study aimed at employees on the shop floor. There are white-collar employees who also contribute to the growth of the company. The ratio is about one is to ten, white collar to blue collar. A study could be carried out to know which category of employees should be given preference for training in a competitive environment. Studies may be carried out for different sizes of factories, e.g. small, medium and large. Then one could see how different type of employees response to productivity improvement after training.

Training methods of the present study did not incorporate different types of training systems (e.g., competency based training, enterprise based training, industry oriented training, industry based training etc.). Training method should be identified within a training system and its effectiveness studied under different methods.

Further research is needed to find out whether training is well acknowledged in the context of an overarching business strategy of the corporate sector, in other words, whether training effectiveness is independent of the business environment.

Skills must be rated. There must be an international standard for skills. A post-training period must be established and outcomes measured at the end of the post- training period. A relationship between the post- training period and skills imparted must be established. Skills imparted may be dependant on post training period. Therefore, skills gained must be measured as per post-training period.

Finally, this study can be concluded that strategic training methods did not show significant improvement in performance which was used as a measure of training outcome or training effectiveness. However, training methods alone cannot enhance performance even though it is the right training method. There are several concerns that go along with the training to have successful outcome in training (see section 5). One important matter is that most companies were not ready to absorb training and they were unorganised or having bad management practices. Therefore, training in the future must consider the internal and perhaps external matters relevant to that outfit before commencing on training. All those variables must be neutralised in order to have an effect on training.

10. Future Research

The research concluded revealed that training perse cannot deliver good results but must address certain variables. Identify these variables and see what are the most concerned ones and how they react to different situations such as type of industry, size of enterprise, locality and specific job categories. Future research can be aimed at conducting the experiments in a controlled environment where the first, the organizational factors such as, organizational climate, perceived organizational support and sometimes breach of psychological contract influence the training effectiveness. Research can be carried out to understand the training effectiveness in different levels of factories. Factories can be rated according to facilities and organizational conduct and then see how training could be more effective in different type of factories. This could be extended to different type of cultures in the global context.

Research Questionnaire Appendix 1

Pre-empirical test

Response by mean by question for all participants and by Department

		Stores (1)	Cutting (2)	Sewing (3)	Sample (4)	Quality Control (5)	Mechanics (6)	Finishing (7)	Logistics (8)
Ques.	Number of responses (Note: participants may not have responded to every question - means are based on actual number of responses)								
	Question								
1	I like the kind of work that I do.								
2	Management treats everyone fairly rather than playing favorites.								
3	I feel there is a good opportunity for me to get a promotion in the next year.								
4	P V is making the changes necessary to compete effectively.								
5	P V management does a good job of keeping employees informed about matters affecting us.								
6	At P V, employees can trust one another								
7	I am given a real opportunity to improve my skills at P V								
8	I feel that I am a valued member of my department								
9	I am able to maintain a reasonable balance between my work life and my home life.								
10	My performance is fairly evaluated according to company standards								
11	P V keeps me informed of the company's goals and objectives.								
12	My job responsibilities are clear to me.								
13	The people that I work with cooperate to get the job done.								
14	My supervisor shows appreciation when I do a good job.								
15	Some employees seem to get by doing very little work								
16	I have received enough training to do my job effectively.								
17	My co-workers and I work well as a team.								
18	The working conditions on my job (such as temperature, lighting, noise level, ventilation) permit me to do my job effectively.								
19	I am treated with dignity and respect by my co-workers.								
20	I am treated with dignity and respect by my supervisor and other levels of management.								
21	I plan to continue working at P V for the next twelve months.								

22	I would recommend P V to my friends as a good place to work.								
23	Overall, I am satisfied with my employment by P V.								
24	My supervisor keeps me informed about things going on at work that are important to my performance.								
25	I have the authority to make decisions that improve the quality of my work.								
26	The company's policy on unapproved absences from work is fair.								
27	I understand the company's expectations about my attendance at work.								
28	My job makes good use of my skills and abilities.								
29	I am as productive in my job as I can be.								
30	Management of P V behaves honestly and ethically.								
31	Management provides a clear direction for the company.								
32	The workflow is well organized in my area.								
33	My supervisor has the skills he/she needs to be effective.								
34	Before I was hired, I was given an accurate picture of the amount of work that would be expected of me.								
35	The right tools are available to me to do my job.								
36	When a work problem arises, people in my work group will solve the problem together.								
37	I am encouraged to be creative in doing my job.								
38	The company provides sufficient welfare facilities so that I can focus on my job.								
39	The right tools are in place at the right time so that I can do my job effectively.								

.

Appendix 2

Research Questionnaire - I

Company Name: ……. Address:
……

……

---

1. Are you ready for the post MFA era? (Yes/No)

2. Will there be a competition different from now? (Yes/No)

3. If so, what type of competition? (Severe / Medium / Mild)

4. What would be the key elements in the competition in the future?
(Delivery / Design / Differentiation / Competitive Price)

5. Do you feel the Clothing Industry of Sri Lanka can successfully meet the future challenges? (Yes/No)

6. Have we prepared ourselves for the post MFA? (Yes/No)

7. What would be the growth in the future? (5%, 8%, 10%, 15%)

    1. Do you think Sri Lanka would need to have a marketing strategy for the industry?

    (Yes/No)

9. What would be the Buyer's strategy for sourcing?
(Design / Flexibility / Quick Response / Price Competitiveness)

10. Can Sri Lanka consider the post MFA as an opportunity or a threat?
(opportunity / threat)

Signature Date:

Research Questionnaire - II

Company Name: …… Address: ……

Products: Lingerie, Pants, Blouses, Activewear ……

Leading Buyers: M&S, GAP, VS, VSD, A&F, Lands End, Diesel

---

1. Do you feel the competition? (Yes/No)

2. Since when? (1999 / 2001 / 2003 / 2005)

3. Do you feel a competition within the country? (Yes/No)

4. Do you feel competition outside the company? (Yes/No)

5. If it is outside the country, what countries?
(South Asia / South East Asia / Mexico / Africa)

6. What are the key elements in the competition?
(Design/ Price /Delivery / Flexibility / All)

7. What would you think Sri Lanka should adopt from the above in order to face the competition? (Design / Price / Delivery / Flexibility)

7. Select three Buyers and show the price deflection (US $)

Buyer	2001	2003	2005	March 2006

9. Do you attribute the competition to any reason?
(FTA/ MFA Removal/ Regional Dynamics)

10. What should be the course of action to sustain the market in the future?
(Quick Response/ Package Solution /Be price competitive / Develop Design Capabilities)

Signature Date:

Research Questionnaire III

Company Name : …… Date : ……

Address : …… No. Sewing Machines: …….

Total Employees : ……. No. of Executives : …….

No. of Operators : …… No. of Supervisors : …….

How old is the factory: ……

Interest to Training

1. Do you provide training? | Yes | No |

2. Do you prefer to recruit skilled staff to trainees? | Yes | No | Both |

3. Do you have an annual budget for training? | Yes | No |

4. What category do you wish to train most

Operators	Supervisory	Executives	All	None

5. Can you afford to grant leave for training? | Yes | No | With reluctance |

6. What level of training would you like to offer?

Long Term	Medium Term	Short Term	No

Q	1	2	3	4	5	6
Yes	5	0	5		5	
No	0	5	0		0	
Both		3				
Operators				3		
Supervisors				3		
Executives				3		
All				5		
None				0		
With reluctance					2	

TRAINING

25 = Invest on Training
15 = Interested but not properly focused
14 = Not interested

Training Delivery

1. Do you normally carryout Training Needs Analysis? | Yes | No |

2. How would you prepare the Syllabus?

Internal Professional	External Professional	Get it Done	Not Applicable

3. Do you assess the training delivery? | Yes | No | Mixed |

4. Do you have someone responsible for training? | Yes | No |

5. Most training programmes are conducted with practical experiments
. | Yes | No |

6. Trainers are from the Industry. | Yes | No |

7. Training classes are normally interactive. | Yes | No |

8. Do you think what was taught is relevant to the need? | Yes | No | Not so much |

9. Would you select trainees from a Performance Evaluation? | Yes | No |

Q	1	2	3	4	5	6	7	8
Yes	5		5	5	5	5	5	5
No	0		0	0	0	0	0	0
Internally		5						
Externally		3						
Get it done		2						
Not Applicable		0						
Not so much								2
Mixed						3		

30 - 40 = Good
Below 25 = Not good

Acquiring Skills

1. Would you give Trainee a written test at the end of the training?

Yes	No

2. Would you prefer a practical test to a written test?

Yes	No

3. Would you normally analyze the results of a test?

Yes	No

4. Would you know that the Trainee has acquired the skills?

Yes	No

5. Will you recognize the fact that a Trainee has done well in the training course?

Yes	No

6. Are you prepared to offer a higher wage or different position to those who have acquired the skills?

Yes	No

Q	1	2	3	4	5	6
Yes	5	-	5	5	5	5
No	0	-	0	0	0	0
Practical	-	5	-	-	-	-
Written	-	2	-	-	-	-
Does not matter	-	2	-	-	-	-

25 = Good
Below 20 = Poor

Performing the task

1. Do you normally have a meeting with the Trainee after he/she returns to the work place?

Yes	No	Sometimes

2. Do you continuously monitor the performance of the trained staff officer?

Yes	No

3. What level of Efficiency trained staff normally would work?

Above 80%	50% – 70%	Below 50%

4. Do you feel training has bridged the gap that was required out of training?

Yes	No

5. Have you noticed employees performing with ease after been trained?

Yes	No

6. Have you seen a difference for better in the employee after training?

Yes	No

Q	1	2	3	4	5	6
Yes	5	5		5	5	5
No	0	0		0	0	2
80			5			
70			3			
50			2			
Sometimes	2					

25 - 30 = Very Good
20 – 25 = Good
Below 25 = Very Poor

Appendix 3

Training Evaluation

1. Trainee's Reaction

Relevance to the task	Interesting Interactive	Difficult to understand	Method of Delivery	Duration
Yes / No	Yes / No Moderate	Yes / No	Good Satisfactory Poor	Too long Too short Just right

2. Acquisition of skills

   a) Was there anything to learn? (Yes / No)
   b) Did you acquire skills or knowledge? (Yes / No)
   c) How confident are you in discharging skills?
   (Very Well / Moderate / Not at all)
   d) Can you impart the skills learnt? (Yes / No / Moderate)
   e) Do you need further training on the same subject? (Yes / No)

3. Transfer of Skills:

   a) Were the skills appropriate for the job? (Yes / No)
   b) Can you use the skills for the job? (Yes / No)
   c) Is it difficult to transfer the skills to the job? (Yes / No)
   d) Do you need assistance to transfer the skills to the job? (Yes / No)
   e) Are you sure the learnt skills be useful for the job? (Yes / No)

4. Organizational results:

   Has the company achieved the goals? (Yes / No / Moderate)

5. Are there any variables that affect training? (Yes / No)

SUPERVISOR PROFILE

SBU	SERVICE %		AL %	TRAINED %	NOT TRAI	OT TRAIN	TOTAL	REMARKS
	5<	3<		5 YRS AND M	RS AND M		PERVISORS	
BAWK	60	68	50	30	22	37	60	
BIAM	46	62	41	39	3	4	67	
BIAK	14	40	66	57	2	5	41	
BIMR	7	35	70	68	1	0	56	
BCG 2	70	80	70	100	0	0	10	
BCWR	62	68	27	16	63	60	105	Highly exp. Not trained.
BCWJ	46	60	42	14	21	42	50	
BCW EK	42	71	69	77	6	12	52	
BCW Sdv	52	55	70	54	17	27	64	
BCW Av	43	52	39	13	11	48	23	
BCW G	40	52	56	100	0	0	25	
BCW Pol	7	17	62	52	1	0	29	
BCW Ktu	64	73	73	100	0	0	11	
BCW Khv	58	69	53	37	7	16	45	
BFL 1	76	94	26	47	13	38	34	
BFL 2	63	69	0	0	0	0	16	Information not available

SUMMARY
SUPERVISOR PROFILE (2007)

Total Supervisors in the Study	**688**
Supervisors served for more than 5 years	**47%**
Supervisors served for more than 3 years	**60%**
Supervisrs having GCE (A/L)	**51%**
Supervisors trained on job related	**50%**

References

Amaradasa, A. A. (1983). Quality Control Circles: New Tool for Quality and Productivity Improvement, *Journal of the National Institute of Plantation Management, 3,* 92-101.

Amarasinghe, E. F. G. (1992). Liberalization: Problems Relating to Labour Laws in Sri Lanka. Paper presented at the *Workshop on Labour and Economic Liberalization*. Colombo, the Asia Foundation.

Anson, R. (2006). Editorial. *Textile Outlook International (TOI), Textile Intelligence*, No. 122, 3-8.

Anson, R. (2007). Editoria. *Textile Outlook International, Textile Intelligence, No. 128*, pp.3-11.

Anson, R. (2007). Editorial. *Textile Outlook International, Textile Intelligence,* No. 129, pp. 4-7.

Ashraf, A. M., & Honeycuff Jr E. D. (2002). Evaluating sales training programs: a revised framework and research questions. *Journal of Personal Selling and Sales Management, 22,* 123-124.

Bartel, A. P. (1994). Productivity gains from the implementation of employee training programmes. *Industrial Relations, 33,* 411-425.

Barrett, A. & O'Connell, J. P. (2001 April). Does training generally work? The returns to in-company training. *Industrial and Labour Relations Review,* 54 (3), 647-683.

Bernthal, P. R. (1995). Evaluation that goes the distance. *Journal of training and development, 49*(*9*), 41-46.

Bheda, R. (2002 Summer). Productivity in Indian Apparel Industry; Paradigms and Paragons. *Journal of Textile and Apparel Technology and Management, 2*(3), 4-5.

Bheda, R., Narag Prof. A. S., Singla, M. L. (2003). Apparel Manufacturing: A Strategy for Productivity Improvement. *Journal of Fashion Marketing and Management, 7*(1), 20-22.

Birnbaum, D. (2000). *Birnbaum's Global Guide in Winning the Great Garment War* (1st ed.). Hong Kong: Third Horizon Press.

Black, S. E. & Lynch, L. (2001). How to compete: The impact of workplace practices and information technology on productivity. *Review of Economics and Statistics 83*(3), 434-445.

Black, S. & Lynch, L. (1997). How to compete: the impact of workplace practices and information technology on productivity. *National Bureau of Economic Research,* Working Paper No. 6120, Cambridge, MA.

Brown, G. K. & Gerhardt, W. M. (2002). Formative evaluation; an integrative practice model and case study. *Personnel Psychology, 55* (i 4), 951.

Board of Investment of Sri Lanka. (2002). Performance Review and Future Plans 2001. Colombo, BOI Publication.

Board of Investment of Sri Lanka. (2007). Technical feasibility for setting up of a textile and processing zone 2006. Colombo, pp.1 -9.

Burton-Jones, A. (2001). The knowledge supply model: a framework for developing education and training in the new economy. *Education and Training, London, 43* (4/5), 225-232.

Bruce, D. (2007). Proposal to set up a Textile Authority in Sri Lanka, Colombo: Joint Apparel Associations Forum, Unpublished Report.

Central Bank of Sri Lanka. (2001). Annual report 2000. Colombo: Central Bank publication.

Central Bank of Sri Lanka. (2002). Annual Report 2001. Colombo: Central Bank publication.

Central Bank of Sri Lanka. (2005). Annual Report 2004. Colombo: Central Bank publication.

Central Bank of Sri Lanka. (2006). Annual Report 2005. Colombo: Central Bank publication.

Central Bank of Sri Lanka. (2007). Annual Report 2006. Colombo: Central Bank publication.

Chandratilleke, K. L. (1997). *Managerial Value Orientations and Labor Management Relations*, unpublished Doctoral thesis, The Hague, Netherlands.

Chirico, K. E., Buckley, R M., Wheeler A R., & Facteau, INITIAL.(2004). A note on the need for true scores in frame-of-reference training research. *Journal of Managerial Issues*, 16 (3), 382- 395.

Cooney R., Terziovski M., & Samson D. (2002 Nov). Employee training, quality management and the performance of Australian and New Zealand manufacturers, Working Paper 34/02, Melbourne, Monash University publication.

d'Arcimoles, C. H. (1997). Human resource policies and company performance; a quantitative approach using longitudinal data. *Organization Studies, 18* (5), 857- 874.

Davis J. H S. (2000). Traditional Vs On-Line Learning: It's not an either or proposition. *Employment Relations Today*, Spring, p. 47.

Dealtry, R. (2002). Managing the issue of learning relevance in the formulation of corporate learning strategies. *Journal of Workplace Learning, 14,* (5/6), 209-214.

De Silva, C. R. (1965). *Ceylon under the British Occupation 1795 – 1833.* Colombo: Lake house.

Department of Census and Statistics (2001). *Labour Force and Socio Economic Survey 2000-2001*. Colombo: Ministry of Finance & Planning publication.

Department of Labour. (2001). *Administrative report 2000*. Colombo: Ministry of Labour publication.

Department of Labour (2002). *Administrative report 2001*. Colombo: Ministry of Labour publication

Dearden L., Reed, H. & Van Reenen, J. (2005 Feb). *The impact of training on productivity and wages: Evidence from British panel data*. LSE, CEP Paper 674, pp. 2-38.

Dickerson, K. G. (1991). *Textiles and Apparel in the International Economy* (1st ed.). New York: Macmillan.

Economic Institute of Cambodia. (2005). *Measuring Competitiveness and Labour Productivity in Cambodia's Garment Industry*. April-June 2005. Economic Institute of Cambodia.

Evans, T. D., & Smith, P J. (1999). Flexible delivery in Australia; origins and conceptualizations. *FID Review*. 1 (2/3), 116-120.

European Economic and Social Committee (2004). Opinion on Training and Productivity, Brussels: SOC/183-CESE 1435/2004, ESC publication.

Export Development Board (2000). *Administrative Report*, Colombo: Ministry of Enterprise Development publication.

Finch, C. R., & Crunkilton, J. R. (1989). Curriculum Development in Vocational and Technical Education. PLACE: PUBLISHER.

Ford, J. K. & Wroten, S. P. (1984). Introducing new methods for conducting training evaluation and for linking training evaluation to program redesign, *Journal of Personnel Psychology*, *37*, 651-666.

Geis, G. L. (1987). Formative evaluation: developmental testing and expert review, *Journal of Performance and instruction*, *26*, 1-8.

Government Press. (n.d.). *Economic and Social Development of Ceylon (ESDC): A survey 1926-1954*. Colombo: Government Press Publication.

Goldstein, I. L. & Ford, J. K. (2002). *Training and Development in Organizations (*4th ed.). Beimont, CA: Wadsworth.

Goonetileke, T. M. B. A. (2002). *Effectiveness of ISO 9000 Quality Management System Adopted by Garment Manufacturers in Sri Lanka,* Unpublished MBA Research submitted to the Postgraduate Institute of Management, Colombo.

Green, F & Steedman, H. (1997). Into the 21st Century: An Assessment of British Skill Profiles and Prospects, LSE. London: Centre for Economic Performance.

Greenberg, D. M. H. R. & Wiseman M. (1994 July). Multisite employment and training program evaluations: a tale of three studies. *Industrial and labour Relations Review, 47*, 679-691.

Gudenas, I. (2003). 3T Technology: A new approach to employee training. *Employment Relations Today, Hoboken,* Fall, *30* (3), 15-22.

Huang, A. H. (2002). A three tier technology training strategy in a dynamic business environment. *Journal of the end user computing, 14* (2), 30-39.

Indraratne, A. V. D. S. (1998). Economic development and policy: an overview, *Sri Lanka institute of social and economic studies.* Colombo: SLSES publication.

Institute of Policy Studies. (2008 Feb.). Trade and Innovation in the Textile and Clothing Industry: case study on Sri Lanka. Colombo: IPS publication.

Ichniowski, S. K., & Prennushi, G. (1997 June). The effects of human resource management practices on productivity. *American Economic Review, 87*, 291- 313.

Jayawardana, A.K.L. (1996). Work values and employee involvement. *South Asian Journal of Management studies, 2*, 1.

Jayawardana, A. K. L. (2004). *Sustaining employee involvement in a developing country,* Unpublished Doctoral thesis, University of Canberra, Australia.

Jayaweera, S. (1998). Education in Sri Lanka: Fifty Years Since Independence. In Fifty Years of Sri Lanka's Independence: *A Socio Economic Review.*

Journal of the Sri Lanka Apparel Exporters Association. (2007). *Sri Lanka Garments*. No. 85. Colombo; SL Apparel Exporters Association Publication.

Karunathilake, H. N. S. (1987). The Economy of Sri Lanka, Centre for Demographic and Socio – *Economic Studies*, Colombo.

Kelegama, S. (1996). Study on the impact of labour legislation on labour demand in Sri Lanka. Colombo: The Institute of Policy Studies publication.

Kelegama, S. & Epparachchi, R. (2002). *Productivity, Competitiveness and Job Quality in Garment Industry in Sri Lanka*. New Delhi: International Labour Organization,

Khanna, S.R., (1993). *Challenges of Global Competition in the 1990s*. PLACE?: ICRIER.

Kirkpatrick, D.L. (1996). Evaluation (Ed.). *The ASTD training and development handbook* (4th ed. Pp. 294-312), New York: McGraw-Hill.

Knowles, M. (1990). *The Adult Learner* (4th ed.). PLACE?: Gulf publishing.

Kraiger, K., Ford, J. K., & Salas, E. (1993). Application of cognitive, skill-based and affective theories learning outcomes to new methods of training evaluation. *Journal of applied psychology*, *78*, 311-328.

KSA. (1998). *Sorting your sourcing*. Dusseldorf; KSA publication.

Kuruppu, R.U. (2006). *Facets of the clothing industry of Sri Lanka* (1st ed.). Colombo: Modern Book Publisher.

Kurosawa M, Ohtake F, & Ariga K. (2005). Productivity, Training and Human Resource management Practices-Disentangling complex interactions using a survey of Japanese manufacturing firms. National Graduate Institute for Policy Studies. Kyoto University and Osaka University. Japan.

Lakshman, W. D. (1997). Dilemmas of Economic Development, Fifty years of Economic Change, *Sri Lanka Association of Economists*, Colombo. SLAE publication.

Liyanage, S. J. (1996). Femininity as a managerial value. *PIM conference on management studies*, Colombo: Postgraduate Institute of Management.

Meglan, L., Sonnie, H, & Burke, G. (2001). Training for Productivity. *Australian Training Authority*. Australia: NCVER (1st ed.).

Morrow, C., C., Jannet M. Q., & Rupinsk,. M. (1997). An investigation of the effect and economic utility of corporate-wide training. *Journal of Personal Psychology, 29,* p. 91.

National Productivity Policy 2003, *Productivity Secretariat Report* (2004), Colombo: Ministry of Labour publication.

Noe, R. A. (1999). *Employees Training & Development.* Irwin: McGraw-Hill.

Opinion of the European Economic and Social Committee on Training and Productivity, (2004 Oct). SOC/183- CESE 1435/2004.

Pararajasingham, E. (2006). Textile History of Sri Lanka (1st ed.). Colombo: Paranan Associate.

Petersdorf, O. F. & Leckscheidt, J. (1997). Change the Company Culture, Not the Workplace. *Business Today*, *2* (7), 74-76.

Pfeffer, J. & Sutton, I. R. (1999). Knowing 'what' to do is not enough: Turning knowledge into action. *University of California, Berkeley*. Fall *42*, 1, 83-108.

Prokopenko, J. (1992). *Productivity Management a Practical Book* (2 nd ed.). Geneva: ILO.

Punch, K. F. (2000). *Introduction to social research* (3rd ed.). New Delhi: Sage Publications.

Rees, D.W., & Porter, C. (2002). The use of case studies in management training and development. *Industrial and Commercial Training*, Guilsborough, *34* (1), 5-8.

Rodrigo, C. (1994). Structural reform and labour market, 1972-92: Sri Lanka case study. In social dimensions of economic reforms in Asia, Rizwanual, Islam (Ed.). ILO South Asia multi disciplinary team, New Delhi.

Sadler-Smith, E., Down, H., & Sand L. J. (2000). Modern learning Methods; rhetoric and reality. *Personal Review, 29* (4), 474-490.

Saheed, H. (2006). Prospects for the Textile and Clothing Industry in India. *Textile Outlook International- Textile Intelligence,* No. 121, p. 12.

Saheed, H. (2006). Prospects for the Textile and Clothing Industry in Indonesia. *Textile Outlook International- Textile Intelligence,* No. 123, p. 11.

Saheed, H. (2006). Prospects for the Textile and Clothing Industry in Pakistan. *Textile Outlook International- Textile Intelligence*, No. 125, p. 107.

Saheed, H (2007). Prospects for the Textile and Clothing Industry in Vietnam. *Textile Outlook International- Textile Intelligence*, No. 129, p. 12.

Schmidt, R. A., & Gabriele, W. (1997). Continuous concurrent feedback degrades skill learning. *Human Factors and Ergonomics Society. 39* (4), 509- 526.

Sein, M. K., Bostrom, R. P., & Olfman, L. (1999). Rethinking end user training strategy; applying a hierarchical knowledge level model. *Journal of End User Computing, 11,* 1, p.32-39.

Silva, T. K. (1994). The transition from welfare state to market economy and its effect on social development in Sri Lanka. *Sri Lanka Journal of Social Studies, 17* (2 March-April)

Suraweera, D. G. K. (1999). *Underdevelopment of Sri Lanka rubber processing industry*, Unpublished MBA research paper submitted to the Postgraduate institute of management, Colombo.

The Employers Federation of Ceylon. (1989). Annual Report 1988. Colombo. Sri Lanka.

Textile and Garment Industry, Vocational Educational Training (2001), Colombo: Textile Training & Services Centre publication.

Tertiary and Vocational Educational Commission. (2007 Dec). Training Plan 2006. Colombo; Ministry of Vocational Training.

Tertiary and Vocational Educational Commission. (1999). *VET Plan for Garment Industry Survey Findings*. Colombo; Ministry of Vocational Training.

Toshiba Co. (2002). Toshiba builds dealer skills through electronic and classroom-based learning. *Training & Management Development Methods*. Bradford. *16* (2), 925–928.

Upasena, K. W. (1991). Leadership style and the task environment. *PIM conference on management studies*. Colombo: Postgraduate Institute of Management.

Warner, M. (1999). Management in developing countries. *Regional encyclopedia of business and management*. UK: Business Press.

Wentland, D. (2003).The strategic training of employee's model; balancing organizational constraints and training content. *SAM Advanced Management Journal*, 68 (1 *Winter*), 56-64.

Wijewardena, H. (2000). Factors contributing to the success of manufacturing enterprises in Sri Lanka: an empirical investigation. *Sri Lankan journal of management, 5*, 23.

Wijesinhe, S. G. (1993). Success criteria for Quality Circles in Sri Lanka, *International Convention of QC Circles*, Bangkok.

Wijayasiri, J & Dissanayake, J. (2008). Trade and Innovation in the Textile and Clothing Industry: Case Study on Sri Lanka, Unpublished paper prepared under a research grant from the Trade and Agriculture Directorate of the OECD, Paris.

Zwick, T. (2002). Training and firm productivity- Panel evidence for Germany, SKOPE Research Paper No. 23, ESRC funded on skills, knowledge and organizational performance, Oxford University and Warwick University, UK. pp. 1-20.